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Creating an Online Community for Worcester Public Schools

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Creating an Online Community for Worcester Public Schools

An Interactive Qualifying Project Report

Submitted to the Faculty of

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

Submitted to:

Project Advisor: Professor Chickery Kasouf, WPI

Project Sponsor: Jennifer Carey, WEC

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February 28, 2013

Abstract

The purpose of this project is to assist the Worcester Education Collaborative (WEC) in the development of an online community that provides a technological solution for the Worcester Public Schools (WPS) to maintain a wish list. In an effort to help fulfill the basic needs of the public school system, the Worcester Education Collaborative (WEC) began work with Worcester Polytechnic Institute (WPI) to develop an online community and database for the Worcester Public Schools (WPS). The project team gathered recommendations from WEC officials and WPS administrators, and designed a website that tracks each school's wish list needs within the public school system, and provides means for individuals and companies to fulfill those requests. In addition, the team generated a user manual and provided a promotional strategy and recommendations to maintain the online community. The website design and recommendations were given to the WPS to aid their effort to promote and expand the use of wish list items within the Worcester community.

Acknowledgements

The team would like to take the time to thank all the individuals without whom this project would not have been possible:

Professors Chickery Kasouf and James Chiarelli, our advisors, for their advice, guidance, and organization while reviewing our report drafts and their overall help throughout the entirety of this project.

Jennifer Carey, our sponsor, for all the help and resources she provided us throughout this project. Also, thank you to the Worcester Education Collaborative for the great hospitality provided to the team.

Thank you to all the individuals who took the time to meet with the team during our time working of this project in order to provide us with valuable information:

- David Perda – Worcester Public Schools Chief Accountability Officer
- Bob Walton – Worcester Public Schools IT Director

Thank you to everybody who took time out of his or her day to attend our final presentation. The feedback and discussion was extremely helpful.

Executive Summary

The purpose of this project is to assist the Worcester Education Collaborative (WEC) in the development of an online community that provides a technological solution for the Worcester Public Schools (WPS) to maintain a wish list. A survey completed by the WEC has already divided school needs into categories aligned with the WPS accountability plan. Wish list items were then organized within the online community according to these categories from the accountability plan. The goal for this phase of the project is to go online with a technological solution that will allow the WPS to identify, monitor, and meet school needs.

The project team carefully designed a methodology to develop this online community over a seven-week period. In order to fulfill these objectives, our group met with the Executive Director of the WEC, the Chief Research and Accountability Officer of WPS, and the Information Technology Officer of WPS to establish what features should be incorporated into the website. Before beginning work on the website, information needed to be gathered from WPS administrators regarding the current status of the wish list. Prior to the onset of this project, the Worcester Public Schools (WPS) maintained teacher's wish list needs into one organized Google Document. Unfortunately, a problem with the Google Documents method is that whoever has access to the site can make any changes they choose. Also, this method does not provide the interactive database the WPS and WEC are looking for to help solve the schools' needs. Our team's project took this Google Document and turned it into a fully dynamic and functional online community.

In order to meet the needs of the WPS, the online community must feature wish list items that can be added, managed, and removed easily by one administrator from each of Worcester's public schools. The database aspect of the online community must also incorporate a feature that will allow administrators to indicate when needs have been fulfilled and take them down from the main wish list. After the team received feedback on the features to be included in the online community, the team presented an offer to the WPS administration to gain approval to obtain a content management software to aid in the overall structural design of the website. The next step involved developing and designing the online community according to our sponsor's needs. After completion of the website, the team assessed the design through initial and major testing. Last, the team compiled a user manual for both the school administrators as well as the head administrator that details all roles and procedures.

In conclusion, our team developed and designed an online community that allows an administrator from each of Worcester's public schools to post, monitor, and remove school needs. Administrators from the WPS assessed the website to ensure that the website design is simple and intuitive with good potential to be a useful tool for teachers that need additional supplies within the classroom. The website can now be accessed at:

<http://www.wishlist.worcesterschools.org>.

Table of Authorship

The WPI Interactive Qualifying Project team involved with this project is composed of Dominic Gonzalez, Trevor Hajko, Brendan Matheny, and Tyler Modelski. Each member was able to contribute different skills to make this project a success. Below highlights some of the major responsibilities of each person:

Dominic Gonzalez is majoring in Electrical and Computer Engineering with a concentration in power electronics. Much of his project experience comes from circuit design and innovation in electronics. Dominic focused on the complex HTML coding that needed to be written and modified throughout the project term.

Trevor Hajko is working towards his MBA in Mechanical Engineering and Fire Protection. He has already begun graduate level courses that can contribute to quality production with the project. Trevor contributed greatly to the visual aspects of the website design in order to give the online community a professional look.

Brendan Matheny is completing his Civil Engineering degree with a concentration in Environmental Engineering. His professional level experience comes from his work on an efficient water treatment plant applicable in third world countries. Brendan spent the majority of the project updating and editing the report as the project progressed throughout the term.

Tyler Modelski is focusing his studies in Biomedical Engineering with a concentration in Biomaterials. His project experience draws from design as he has created a medical breast pump to be used for mothers in third world countries. Tyler worked on creating the general framework of the online community to ensure that all aspects of the design were kept simple and effective.

The team conducted this project locally in Worcester.

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1.0 – Introduction

Since its establishment in 1848, Worcester has been a vibrant industrial city. The Blackstone Canal, built about a quarter century later to connect Worcester to Providence, increased the flow of goods and reduced transportation costs, allowing many manufacturing businesses to grow and prosper in the region. Large tracts of affordable housing were constructed to accommodate low-income workers and their families as a result of Worcester's population growth [Kelleher, 2009]. Worcester is now the second largest city in Massachusetts with a population of about 200,000 and almost 30,000 students. One can see that there is a need for many resources, especially in the public education system, with approximately 24,000 students enrolled in Worcester Public Schools (WPS) [FY13 Budget, 2012]. With such a large number of students to accommodate, there is a great need for school supplies, workers, and other basic requirements.

Unfortunately, these needs are not all covered by the fiscal year budgets proposed by the WPS. Therefore, WPS officials have resorted to looking outside of the public school system into the broader Worcester community to fulfill these needs for teachers and students. There are many organizations within the Worcester community that supply aid to the WPS, one of which is the Worcester Educational Collaborative. The Worcester Educational Collaborative (WEC) is a non-profit organization that works to ensure students in the WPS system are given the opportunity to succeed at the highest possible level. They serve as an advocacy group between the children and the community to create a more effective system within the schools.

Prior to this project, the WEC maintained all the schools' wish list needs through a Google Document, open to the each school's administration. Essentially, this allows a principal from each school to post what they may need in the classroom throughout the year, then making that wish list available to view for those in the Worcester community. However, a problem with the Google Documents method is that whoever has access to the site can make any changes they choose. Also, this method does not provide the interactive database the WPS and WEC are looking for to help solve the schools' needs. The only way to update the document when a wish list item has been met is by deleting the post. It does not notify the WPS, WEC, or anybody else that the request was fulfilled. Another drawback to this Google Documents method is that it does not let the WEC reach out to make direct contact with companies and other prospective benefactors, who may be able to assist in meeting the needs of WPS.

Our team worked with the WEC toward the creation of a website for the empowerment of an interactive online community for the WPS. To fulfill these objectives, our group met with the Executive Director of the WEC, the Chief Research and Accountability Officer of WPS, and the Information Technology Officer of WPS to establish what features should be incorporated into the website. After conducting formal interviews with the afore-mentioned individuals, the team began work on designing and implementing the website design to meet the required specifications and goals. The team used software to aid in the design of an online community with a classifieds section where wish list items can be posted. This website contains the database for proper maintenance of the wish list requests sent by the public schools in Worcester. The team conducted surveys with WPS administrators and business leaders to gain feedback and enhance usability. Finally, a user's manual was developed to guide moderators

about the website's functions and usability. It is the WEC's hope that the site will help open up lines of communication with their potential donors to the Worcester Public Schools.

Wishlist.worcesterschools.org is now a fully dynamic and interactive website on the WPS server.

2.0 Background

2.1 – Worcester Education Collaborative

The Worcester Education Collaborative (WEC) is an independent, non-profit organization that works to ensure students in the Worcester Public Schools are given the best opportunities to succeed. The WEC works to provide the highest level of support so that students may acquire the skills and knowledge to master challenges of the 21st century. The WEC is committed to developing a wide variety of partnerships among families, schools, organizations, and businesses that will enhance the quality of public education in Worcester.

The WEC speaks for the children of the Worcester community in order to create a system of effective schools in which every child can be prepared for success in college, career, and life. The Worcester Education Collaborative believes that excellence results from a meaningful relationship between schools, families, and the community. They support this belief through programs, initiatives, and events that inform, equip, and energize all portions of the community in providing support for the schools and children [*About Us - Advocating Excellence*, 2012].

2.1.1 – WEC Mission

The mission of the Worcester Education Collaborative is “to engage our community in fulfilling its responsibility to ensure that excellence in education is available to all public school students and that they are prepared for success in college, career, and life.”

Supported by a theory of action, the WEC utilizes a reform agenda that seeks to engage the Worcester community in sustained educational improvement. The leadership of the Worcester Public Schools has a vision that all children can be presented with the opportunity to learn and meet high expectations. The WEC seeks to fulfill this vision by aligning their actions and goals with that of the Worcester Public Schools. In order to accomplish this work, systematic and structural changes must be made in the institutions that deliver services to students enrolled in public schools.

Right now many of these organizations are working hard, but not with a shared vision that can produce meaningful impact. Coordination with these various organizations and businesses involved with both the Worcester Education Collaborative and Worcester Public Schools is critical to the improvement of the schools in the Worcester community. Significant changes are being made by the WEC in the direction toward a shared vision of education, increased collaboration among critical stakeholders, better-informed parents, and a greater alignment among the community, businesses, and corporations.

2.1.2 – WEC Future

The Worcester Education Collaborative began its work several years ago when concerned leaders with a shared belief that the city of Worcester lacked a community-based education organization came together. The purpose was to fill this void and advance the mission of engaging the Worcester community to ensure that all students enrolled in public schools are prepared for success in higher education, career, and life. Much strength can be found in public schools in the community. Unfortunately, many students are graduating high schools unprepared for the challenges of life in a century of rapid change. While students who are well prepared improve the quality of life in the community, those students who are unprepared can negatively affect the Worcester community.

The success of public schools is critical to for a community's future. Economic and social vitality are inextricably tied together with education. Strong schools can provide students with the skills for college and careers while developing a culture of community involvement committed to productive contributions to the city. The WEC believes that a sound school improvement agenda will result in meaningful change in the public school system. This work of improvement will be a demanding long-term effort requiring participation from the entire community. In its first months, the WEC accomplished much in bringing the community together on these important issues [Worcester Education Collaborative Progress Report, 2011].

2.2 – Worcester Public Schools

The public school system in Worcester has been in existence since 1848. Today, 24,240 students attend a public school within the city of Worcester [Worcester Public Schools, 2012]. As indicated in WEC's mission statement, "The Worcester Public Schools provide learners with the quality of education in a safe and healthy environment..." [FY13 Budget, pg.34, 2012]. The mission sets forth the concept that all students can achieve at high levels as they prepare to become productive citizens in our "technological" world.

With an immense number of students in need of quality education, it is vital that resources are provided not only for students but also for teachers and administrators. The academic success of students in Worcester public schools is a great concern. However, *Benchmarking Public Education in Worcester: 2010* provides analysis about the current educational status of the Worcester public school system. It indicates that Worcester public schools are below average compared to the rest of the Commonwealth of Massachusetts [Dunn, 2010]. One reason for this state of affairs is related to the WPS budget shortfall. If the school's basic needs are not even being met, then the school system cannot be expected to provide the best education possible for students.

2.2.1 – Public School Budgeting

Looking deeper into the Worcester public school system, the amount of money put into educational resources has dramatically decreased since 2002. The Worcester Public Schools 2013 Fiscal Year document highlights a vast amount of information dealing with the budgeting and academic plans of the Worcester Public Schools. One main reason for the lack of funding to the WPS is a result of passing Proposition 2 1/2 in 1980. Passed by ballot measure, the initiative places a 2.5% limit on the increase of taxes by Massachusetts' municipal districts. What this means for the Worcester school district is that they can only ask for a 2.5% increase in their budget from the previous year to buy the supplies they need for the Worcester public schools and all other expenditures. These resources are not enough to cover what is actually needed to provide education the WPS and community strives to offer [Massachusetts Municipal Association, 2003].

Every year the Worcester Public Schools releases a fiscal year plan [FY13 Budget, 2012] which gives a detailed account and plan to help guide administrators, elected officials, and assist the public in understanding the district's programs and services. The importance of this budget to the overall goal of our proposal is to give insight as to why resources are not being allocated where they are much needed. The budget will also be useful in incorporating the fiscal year plan into our database where the whole Worcester online community can easily access this information on budgeting. The budget not only gives statistical and numerical information but also serves as a financial planning tool, an executive guide, and communication device to most effectively set forth its goals. The FY13 budget is thus broken into seven sections: (1) Introduction; (2) Organization; (3) Financial; (4) Line Item Budget; (5) Location

Based Budget; (6) Informational; and (7) Appendices (See Appendix). With the use of the zero-based budget approach for the 2012-2013 year, the Worcester Public Schools have been able to save millions of dollars that have been distributed to support instruction aimed at college and career readiness.

<u>General Fund Expenditures</u>	FY13 Budget	% of Budget
Employee Salaries	\$186,934,528	65.6%
Health Insurance	\$37,130,978	13.0%
Special Education Tuition	\$18,011,904	6.3%
Retirement Assessments	\$13,176,162	4.6%
Student Transportation	\$11,938,878	4.2%
Building Utilities	\$6,002,162	2.1%
Instructional Supplies & Materials	\$2,666,747	0.9%
Building Maintenance	\$2,576,495	0.9%
All Other OM Accounts	\$6,413,958	2.3%
Total General Fund Expenditures	\$284,851,812	100%

Figure 2.1 - Numerical and Percentage of the Budget Distribution

The data in **Figure 2.1** was originally prepared for the Worcester Public Schools fiscal year document that will be continuously referred to in this portion of the proposal. For the year 2013, the fiscal year budget by the School Committee is \$284,851,812, which compared to the FY12 budget is a 4.3% increase from \$273,087,211. This change was because there was an increase in enrollment accompanied by changing demographics [FY13 Budget, 2012].

Appendix A shows a visual representation that demonstrates how the instructional materials (0.9% in Figure 2.1.) relate to the other expenditures in the chart [FY13 Budget, 2012].

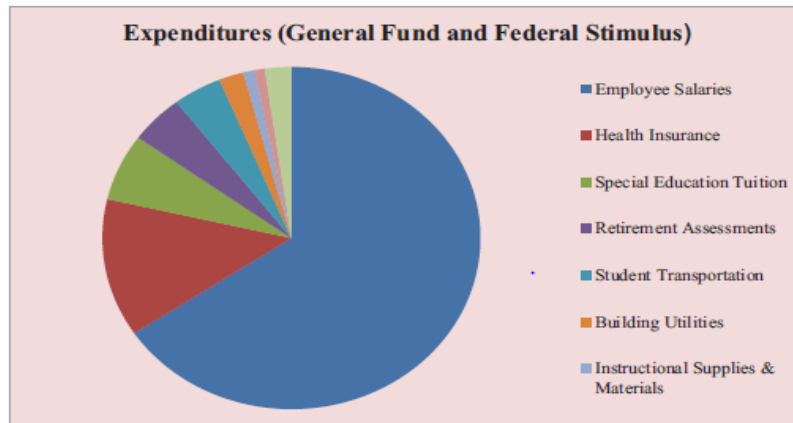


Figure 2.2 – Distribution of Expenditures (General Fund and Federal Stimulus)

Notable in these figures is the fact that there is not enough financial support designated for instructional supplies, which leads to schools requesting assistance in this area from other sources via wish lists. The problem with a wish list for school resources is the fact that currently it is only a Google Docs account, which is not fully interactive in terms of notifying administration when needs are met. That is why the design and implementation of a new easy-to-use application is being undertaken so that administration can more effectively list or advertise for the community at large the schools' needs for specific items and materials.

As the team continues its study of the Worcester Public Schools, it is also critical to know where funding is not being utilized, or is completely lacking. **Appendix B** shows the data chart on per pupil spending from 2001 to 2013 and it is clear that after the economic downturn, student per capita funding decreased by a large margin. This information is not only stated in the 2013 fiscal year plan but is also shown in the budgeting proposal given by the Worcester Education Collaborative. With these data in hand, the team can determine the next steps that could be helpful in terms of finding the problem and evaluating "what to do now".

This serves as a guide for addressing the need for an interactive environment. The background research provides further insight as to how and why this interactive environment would be useful. **Appendix B** also represents a 3.1% increase in the budgeting for instructional supplies and materials, which thus can be beneficial to some extent [FY2013 Budget, 2012]. What needs to be considered is that these resources are used faster than expected as more students and administrators enter the system. While there has been an increase in the budget for instructional materials for 2013, the amount of students and administration will once again offset the increase leading to the same problems that are currently being addressed for the Worcester Public Schools, i.e., helping them with a needs- based allocation database.

2.2.2 – Technological Status of the WPS

In the Worcester Public Schools technological plan for 2013, the community is making efforts to implement technology not only for students but for administration as well. The Worcester Public School system has participated in the Harvard Public Education Leadership Project (PELP), which provided a framework focusing every department's goals including teachers, students, and content. It established a framework on how to plan and utilize resources, design strategies, and how to interact with the environment to ensure goals are realistic and attainable. This was organized under the Superintendent's LEAP (Lead, Educate, Accelerate, and Produce) Team, which was granted a budget of **\$2,486,044** to accomplish this goal [Three Year Technology Plan, 2012].

The document provides an outline of the technological plans for the Worcester Public School system from July 1st, 2012 to June 30th, 2015. Not only does it explain future strategies, it also gives an overview of WPS's current technological standing, it states current advances in technology and also indicates various shortcomings. Furthermore, the technology plan outlines the five goals WPS aims to achieve in the next three years, the first of which is to solicit input from Worcester community businesses and universities [Three Year Technology Plan, 2012]. This effort directly relates with the team's project. User-education is an important part of our project as the teachers employing this database must find it easy to navigate to use it effectively. This review shows that WPS are concerned with the education of its staff on technical matters. We are hopeful that all WPS teachers will be able to use a technological solution to acquire "wish list" items for their classrooms [Three Year Technology Plan, 2012].

2.2.3 – Accountability Plan

The Worcester Public School accountability plan was first established when Dr. Melinda Boone, the Superintendent of the Worcester Public Schools, introduced the Accountability Task Force on March 5, 2010. As defined by the WPS, accountability is the responsibility of all stakeholders in the district, including students, family members, staff, and business and community representatives. This team was created for monitoring progress and judging the efforts put forth toward the improvement in students' academic success. This comprehensive accountability system is to be the cornerstone in the district's overall improvement strategy for "advancing student and school achievement in a focused and coherent manner" [Accountability Plan, 2010].

The seven principles that guide the development and implementation of the Worcester Accountability Framework are shown below:

PRINCIPLE	GUIDING PRINCIPLE DEFINITION
Congruence	The accountability framework is compatible with the district strategic plan and the rewards and incentives systems.
Respect for Diversity	The accountability framework includes multiple measures of student achievement. Some measures apply to all schools, and some apply to individual schools based on their individual, identified school needs.
Accuracy	The accountability framework incorporates alternative evidence beyond test scores.
Specificity	The accountability framework clearly states the expectations for all stakeholders and clearly delineates what is being done to help students achieve.
Feedback for Continuous Improvement	The accountability framework utilizes formative and summative evaluations to make informed decisions about school improvements and new initiatives.
Universality	The accountability framework holds accountable all stakeholders: central office personnel, school committee members, school administrators, teachers, community members, parents and students.
Fairness	The accountability framework is structured with clear expectations which are applied consistently across the district.

Figure 2.3 - Seven Guidelines for Accountability [Accountability Plan, 2010]

By implementing methods of measuring achievement and documentation at the various levels, each school and central office department in the Worcester Public Schools is accountable for each level of assessment. These points include student learning, student and staff safety, student behavior, technology in support of student learning, quality of staff, and family and community engagement. The relevance of this accountability to our project is that it also provides the four categories into which the schools current wish list requests are categorized. These categories include family/community involvement, student achievement, safe and secure schools, and communication. This plan is also mentioned in the FY13 document in the location based budget section as each schools addresses its own accountability plan, an example of which is shown below [FY2013 Budget, 2012].

As shown in the example on the following page, the accountability plan represents the school's goals for improvement in the categories described previously. As we begin to design and implement our web design, the accountability plan will be important to use as a guide for proper categorization. The accountability plan has been a great tool in organizing the overall structure of the classifieds feature.

2.3 – DotNetNuke

DotNetNuke (DNN) is one of many Web Content Management Platforms for building web sites and web applications. DNN enables computer users and businesses to quickly build and design websites without needing a background in HTML coding. The DNN platform is available both Professional and Enterprise Editions with an Elite Support option. DotNetNuke Corp. also operates the DotNetNuke store where users purchase third party apps for the platform. For example, a Classifieds module can be bought from the DNN store to add and manage posts similar to a newspaper classifieds.

The team felt that this program had all the capabilities needed for the success of this project. DNN seemed the more professional option when compared to other website content management systems. Some other features of DNN include easily built online communities and a “classifieds” feature that is similar to the Craigslist page. The best payment option was **\$2,998/yr** for the Enterprise package along with an additional **\$119.99** for the Professional version of the classifieds module needed for the “Craigslist” look. Our sponsors felt this was a fair price to pay for the content management system.

2.4 – HTML

HTML also known as (Hyper Text Markup Language) is the language (code) used for web page development and is what a browser looks for to display a webpage the way the web designer intended it to look, and is a series of tags (< >) indicating the layout or placement of items on a web page [Kristi E. Schmidt, Yili Liu & Srivatsan Sridharan, 2009].

The two methods primarily used in web page development are as follow. First is the method that is the quickest and easiest through the use of an on-line "wizard" supplied by one's internet service provider (ISP) or some other organization. To use this method, one visits the internet address given by the organization providing the service. The user will be guided through a series of simple steps, which will result in a site being constructed [Website Tutorial, 2012]. This method can either be done through a free hosting or subscriber's payment. The advantage of this method is that no additional skills are required other than using one's browser. The drawback is that the user is very limited as to what can be done with this kind of website as the software is free. If better features are required, one would have to consider purchasing software that can incorporate more robust features [Website Tutorial, 2012].

The other approach would be to construct a website manually on a personal computer, then "upload" it to the Internet so that it can be accessed by others. This is the way most professional webpages are made, since this method gives the designer more hands on control over the design features. Manual construction will most likely be preferred by the IT specialists since it will save them time from having to convert prewritten code from a "wizard", to their own suitable style that is already in place [Website Tutorial, 2012].

HTML uses a series of syntax- based structures consisting of tags in angle brackets `</body>`, `</html>`, which is similar to what one would see in another language known as C programming [Fleming, D, 1997]. This code is what a web browser will need in order to display every bit of information onto a web page. What is important to remember about a web browser is that its purpose is to read HTML tags and compile them into visible and/or audible web pages. The browser uses these tags to interpret the content of the page rather than display them [Website Tutorial, 2012].

Although some programmers like to manually input this code themselves when designing a web page, there are many available programs that can accomplish this for those not familiar with the language. The use of an HTML program will be helpful since premade codes are already in place for features that would be difficult to create from scratch. One frequently used program is Adobe Dream Weaver, which in fact is a web design program that provides an intuitive visual interface for the creating of this code for web design and application [Website Tutorial, 2012]. These web design programs do have to be purchased if the user wishes to implement advance features to a web page. With all these resources available to the Team, the final step in the implementation of this program will be in working with experts [Kristi E. Schmidt, Yili Liu & Srivatsan Sridharan, 2009].

2.5 – Craigslist Design Features

The website design for the Worcester Education Collaborative will be styled after the popular website, Craigslist. Craigslist is a classified advertisements website with sections devoted to jobs, housing, personals, for sale, items wanted, services, community, event planning, résumés, and discussion forums. Craigslist receives about four billion views per months, making it one of the more heavily trafficked websites. Craigslist is notable for having undergone only minor design changes since its inception. Even by 1996 standards, the design is very simple. Since 2001, the site design has remained virtually unchanged and uses only minimal CSS and JavaScript, a design philosophy common in the late 1990s but almost unheard of today for a major website.

2.5.1 – Craigslist Advertisement Features

One of the most helpful features of Craigslist is the classifieds section that advertises products and services. Craigslist is no different from a newspaper's ads section where one can post advertisements or respond to the advertisements posted. Craigslist is, in a sense, an online version of newspaper classifieds. Advertisements on Craigslist are posted under different categories. This feature is aimed simplify browsing. As an online community, Craigslist offers an extensive classified section for sales of products and services, job advertisements, and even personal-related ads. The website for the Worcester Education Collaborative must host a feature that will allow for wish list items to be posted, much like the advertisements section on Craigslist.

2.6 – Online Communities

The Internet has become the most widely used medium for social information exchange and social interaction. The rise of social media has increased the potential of online communication drastically. An online community is defined as “cyberspaces supported by computer-based information technology, centered upon communication and interaction of participants to generate member-driven content, resulting in a relationship being built” [Iriberri & Leroy, 2009, pp. 11:3]. This definition defines the main components of online communities. These components include cyberspace, information and communication technology, member-driven content, members’ interactions, and relationship formation.

2.6.1 – Benefits of Online Communities

Online communities provide many benefits to users and organizations. Benefits of online communities fall into five main categories: information exchange, social support, social interaction, time and location flexibility, and permanency [Ridings & Gefen, 2004]. In designing a system for “wish list” items for the WEC and WPS, these five benefits play a key role in providing evidence as to how the establishment of an online community will address the issue at hand. Information exchange will allow users to access a wide variety of inaccessible information and to connect with other members that would otherwise be impossible. Social support will allow for struggling schools to keep in constant contact with schools that are succeeding greatly, fostering mutual-aid relationships. The flexibility of time and location is a key benefit to an online community. An administrator can post the school’s needs without

leaving the classroom, which will encourage them to use the community more frequently due to its convenience. The final benefit of online communities is permanency. This will allow the WPS system to use this community in the future as well as providing them the ability to look back at past years to create future item lists [Ridings & Gefen, 2004].

2.6.2 – Success Factors of Online Communities

When creating an online community, the designer must consider the different success factors that make the community prosper. Success factors for online communities really depend on the discipline under which it falls. For instance, sociologists suggest that modeling online communities after physical communities is an important factor in ensuring success. Major design principles that come into play to ensure this quality are incorporation of identity persistence (the ability to recognize members by names), group boundaries (the ability to differentiate rightful members), and permeated control (the ability to allow group members to monitor and sanction members' behaviors) [Iriberry & Leroy, 2009].

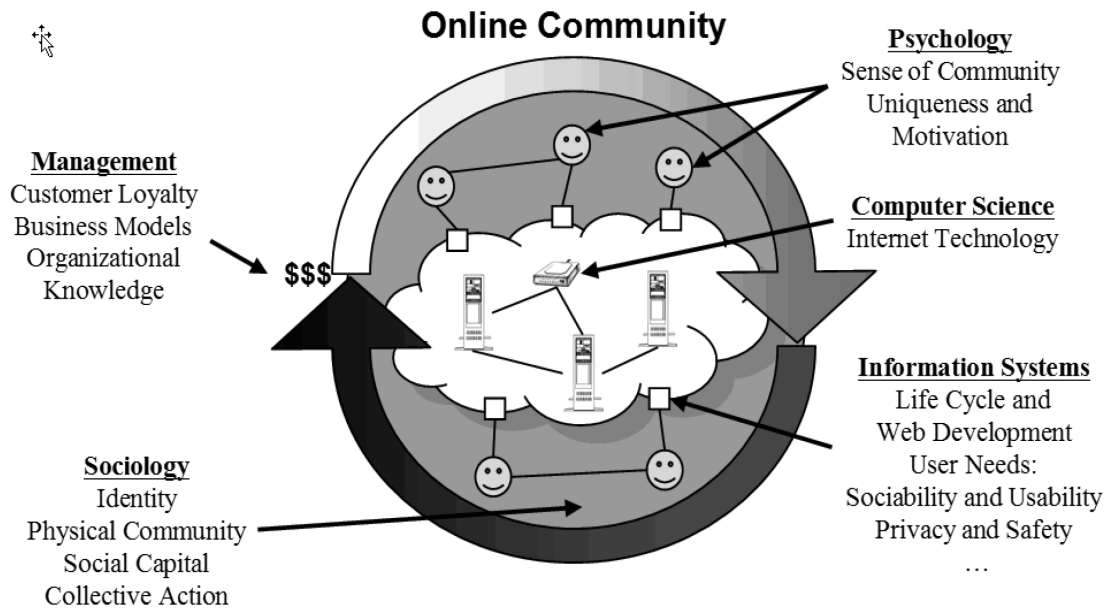


Figure 2.4 - Online Community [Iriberry & Leroy, 2009]

Success factors can also be viewed from a business and management point of view.

There are three main areas of focus that determine success of these types of online communities: focus on the needs of users and explicitly indicating that satisfying these needs is the purpose of the online community, providing support for individual roles of members such as moderators or experts within the community, and facilitating the organization of online and offline activities or events. For an online database for WPS these two disciplines are the main area of focus as they most pertain to the type of online community they need. Success factors from both these disciplines should be implemented to ensure for a successful online community [Iriberry & Leroy, 2009].

3.0 – Methodology

The purpose of this project is to assist the Worcester Education Collaborative (WEC) in the development of an online community that provides a technological solution for the Worcester Public Schools (WPS) in maintaining a wish list. This online community allows an administrator from each of Worcester's public schools to post the school's needs and wish list items that can be filled by local businesses, corporations, and community organizations. The database aspect of the online community incorporates a feature that will allow administrators to indicate when needs have been fulfilled and take them down from the main wish list. A survey completed by the WEC has already divided school needs into categories aligned with the WPS accountability plan. The goal for this phase of the project is to go online with a technological solution that will allow the WPS to identify, monitor, and meet school needs.

3.1 – Pre-Development

In the seven weeks leading to pre-development, the team did extensive research on many of the topics addressed during the project term. During pre-development, which took place over the first two weeks of the project term, the team conducted multiple interviews to gain a better idea of what the WEC and WPS were looking to receive as a finalized product at the end of this project.

3.1.1 – Interview with Jennifer Carey

Jennifer Carey is the Executive Director of the Worcester Education Collaborative. The group had already met twice with Jennifer Carey informally prior to pre-development. Being directly involved with the Worcester Public Schools, Jennifer was able to provide valuable information regarding the WEC and WPS budgets. During the formal interview, Jennifer also described the course of action she would like to see implemented throughout the project using the WPS Accountability Plan. Jennifer indicated that the Round Table group at the WEC already had potential donors for the online community that were already willing to fulfill some of the wish list needs but had nowhere to go. Lastly, Jennifer also introduced the team to David Perda at the Worcester Public Schools, who would be overseeing most of the project.

3.1.2 – Interview with David Perda

The team worked very closely with David Perda, the Chief Research and Accountability Officer of the Worcester Public Schools (WPS). David was able to provide a more in-depth analysis of the features he wanted to see included on the WPS website. David indicated that he would like the website to be able to post school needs similar to the classifieds feature on Craigslist. In this manner, wish list items are organized according to the most recent postings displayed first. David also proposed that the classifieds have the ability to be filtered according to school and category, including a feature that allows a user to directly search by item type.

Along with these features, David also instructed the team to develop a comprehensive way to restrict the privileges of users. Those given accounts include the head administrator who will be overseeing the website and moderating the postings, a school administrator from each school will have access to add and edit postings, and donors who have the ability to search the wish list without being able to affect it in any way. David mentioned that a person had already been found for the head administrator role on the website.

3.1.3 – Interview with Bob Walton

The third interview the group conducted was with Bob Walton, the Information Technology Officer of the WPS. The purpose of this interview is to gather information regarding the specifications in the purchasing and hosting of the software. In addition, Mr. Walton advised the team on how to layout the structure of the website. Bob indicated that he would like to see the website hosted on the WPS server, if possible given memory constraints.

With the project revolving around a Craigslist classifieds structure, Mr. Walton has recommended that the group compare different content management systems for website design. This content management software aided the team in simplifying HTML code into an easy-to-use method of website design. Purchasing a program similar in features to what is found on Craigslist would give the IT specialist a foundation for implementation.

3.1.4 – Recommendations

After consulting with Bob, the team eventually decided upon using the software DotNetNuke to aid in the design of the database. The team presented a final proposal to David Perda and Bob Walton during the third week of the project term. Once the proposal was approved, David further clarified the direction the team would be headed once the website design was finalized. Most notably, a user manual had to be developed for all the public school administrators using the database. David indicated that he would set up meetings some school administrators and business leaders to gain feedback on the website toward the end of the project term. In order to market this website to the greater Worcester community, both the Worcester Telegram and Community Responsibility group at the WEC will both be involved in outreach efforts to spread word. The group met weekly with Mr. Perda throughout the project term to solidify the design features as the website progressed through the different stages of development.

3.2 – Development

After gaining approval from David Perda and Bob Walton regarding the specific features and host server for the online community, the team began work on the website design. The development portion of the project took place during the middle of the project, leading up until the last two week of the project term.

3.2.1 – Host settings

The first thing the team accomplished before the website design began was to figure out what server to host the website. Bob Walton worked with the team to ensure that the website was hosted on the WPS server. Hosting is important to website design because the site cannot function without being under a “host” who provide the domain name and internet access to the site. It was decided to best have this hosted securely under the Worcester Public Schools because it would be better to manage and it would eliminate additional costs. Bob Walton, the IT director, proceeded with contacting the DNN technical support group where he was then able to properly set up the website into the WPS server.

3.2.2 – Linking Pages

An important aspect to the design of this project was making sure that the pages were linked to the categories and subcategories within the main “Wish List” page. One thing to know about a classifieds page is that they function by being able to navigate within major Departments. What this means is that when you click within a department all results and links you click from there on after are only related to that department until you click into another department. The importance of this is that each department can be a major category such as technology, school supplies, and even school safety. When you click into that major department you can view all the results within that area and then view subcategories within such as ipads, or computers, or wires if you were in the technology department.

How the team was able to accomplish this task was through the settings within the Classifieds module for the site. As each major Department was being created a new page had to also be created to complement that major category. Additionally all the pages had to look similar in style, this is shown in **Figure 3.1** below. This is an example of the Technology department page. To the left column you can see the other main departments under “Search by Listing” if the user no longer wanted to see technology results. If the user wishes to view other categories within technology, they can look in the “Technology Categories list”.

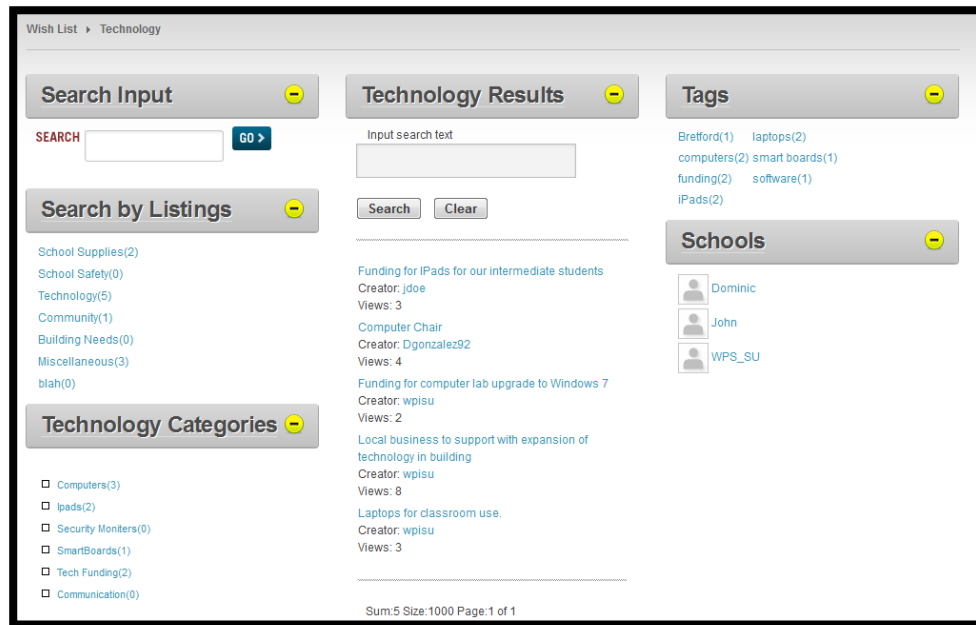


Figure 3.1 – Technology Department Page

It is necessary to link the module containers to that department to which it is linked to. In the sites editing tab only accessible to site administrators you would have the ability to link these modules. So where you see gray boxes as the headers, those must be linked to the Technology department. As each new page was created the modules on that page were linked to that department thus after completing this task for all major departments the site would be displayed. Now the administrators can add new categories to each department the pages will update themselves with the changes.

3.2.3 – Creating New Departments and Categories

The team created these departments and categories based off of the list received that was in accordance to the accountability plan. This option to add new departments and categories is restricted to only the site administrators and this is done in the in the Wish List Profile Tab once logged in. The Data Manager would list the Departments and Categories manager where the user can view the current and add new material.

For more details on adding new pages and creating these departments view the User Manual located in Appendix D at the end of this document.

3.2.4 – Page Management

Page management is another easy way for the administrators to keep track of the website. DNN provides those users with security access to be able to manage the page content quickly and easily. Rather than clicking on each page individually and going on the setting for that page, the users can instantly access the page management portal on the site. **Figure 3.2** below shows this features and it is beneficial in creating subpages to pages and editing settings.

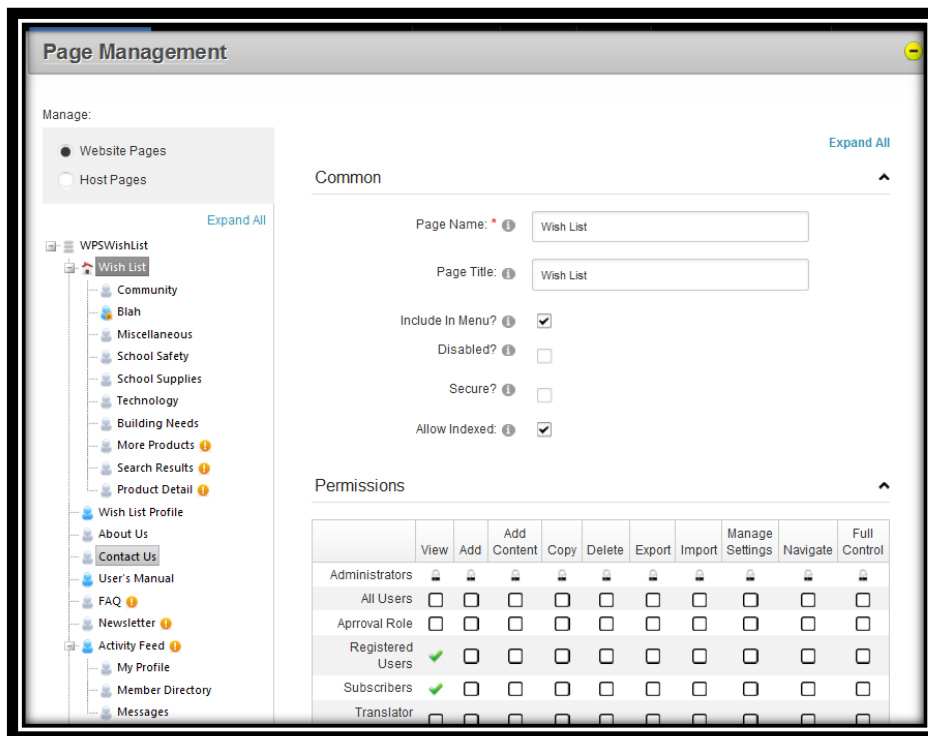


Figure 3.2 – Page Management

From this page manager the team was able to restrict access to different areas of the website to different users. For example the registered (the individual school administrators) would be allowed to post as general public would be restricted to that content viewing. This

important in having several accounts for the site administrators who would be responsible in editing pages and setting up these restrictions.

3.2.5 – Navigating the Wish List

This website was created to make it easier to see what schools needed as well as make it easy for companies to donate any accessories they may have. On the main page, we incorporated this want of ease by making a handful of basic categories to search by. In doing this, if a company could only offer service in a specific category, they would not have to search through all the other categories. When the user clicks on the category they would like to donate to, only posts that fall under that category would show up in a list from most recent to the oldest post. Each post created will show what the user was looking for, who created the post, and how many times the post was viewed. We also incorporated a search bar for the particular category being viewed. The search works of keywords and tags. The view can type in what they have to offer and search to see if there are any posts that need what is being offered.

Subcategories

A sub-category section was also included into the search capabilities. For example, if a someone has computers they can donate, under the Technology category, there is a sub-category called computers that the viewer can click on. In clicking on the computer sub-category, only posts that have keywords with computer in it will then appear. This is a continuation of making the site easy to navigate through.

School Filter

Another search option that was created for the site was the ability to search by schools. After selecting a category, a list of schools will appear to the right of all the postings. If a school is selected, all posting from that school, under that category will then show up in a list. From there, a post can then be selected to be viewed and fulfilled.

Tagging Options

Our group included a tag search option as well. Once a category is selected, a list of tags will appear to the right of all the postings. These tags are similar to the the sub-category section however, they are more specific to each posting and therefore allow for an easier search if a viewer has a specific item they have to offer.

3.2.6 – Login Portal

The ability to keep the online community safe and secure was one of the main concerns when developing a public wish list for the Worcester Public Schools. The WPS administration did not want all users to be able to post to the wish list, because it is only to be used for Worcester schools. They did not want the general public to be able post needs for schools. It was determined that an administrator (usually the principal of a particular school) would have the privileges to post all of the wish list items for their school. At this point, the WPS also did not want the general population of Worcester to be able to fulfill wish list items. Although it would be very beneficial, since this is the first time the WPS system has had an online wish list, they wanted to restrict the access of potential donors to only people with accounts on the site. However, these accounts would be more restricted than each school administrator's account, as they would not be able to post items. Both the school administrator accounts and the user accounts are managed by the head administrator account, which is controlled by the WPS district.

3.2.7 – Accounts

Head Administrator Account

The team has provided the WPS with a head administrator account, which is the highest administrative access on DNN. This account oversees all development of the site, manages the wish list, and manages the users of the site. The main function of this account is to approve the posts on the wish list made by the school principals. This account also allows for the WPS to provide school principals with school administrator accounts. The head administrator account will be filled by a member of the WPS administration.

A detailed User Manual of how the head administrator can use this account is located in Appendix E at the end of this document.

School Administrator Account

To allow each school in the WPS district to manage wish list items, the team created forty-eight school administrator accounts to be used by the principal at each school. These accounts allow the principal at each school to manage their wish list profile. These accounts are restricted in the sense that they can make no changes to the wish list itself, and can only manage wish list posts that they have made. The principals are able to add, edit, and delete every wish list item on the website posted under their account.

To access the wish list profile, a principal logs in and clicks on the “Wish List Profile” page on the navigation bar at the top of the website. From this page the principal can view their

wish list items by clicking the “My Products” link on the page. This brings them to a list of every wish list item they have posted. From this list all of the managerial options for their wish list items can be found. Refer to the user manual in Appendix C to find a more detailed description of the specific steps each principal takes to manage their posts.

A detailed User Manual of how a school administrator can use this account is located in Appendix D at the end of this document.

User Accounts

The team also created a setting that every user of the site must create an account before being able to access the wish list. These accounts will be sent for approval by Head Administrator. They have no administrative privileges and are solely to be used by members of the community who want to fulfill the need of a school. These accounts will allow for the major businesses and organization around Worcester to log onto the site to view the needs of the schools. If they wish to fulfill a wish list item, they are able to add comments to individual posts or view the contact information from the principal who posted the item.

3.2.8 – Approval Process

As stated earlier, an approval process has been set up by the team for the head administrator of the site to approve all posts and users. This is to ensure that no unwanted posts or user accounts are being made. The head administrator can approve all the posts made by principals in the wish list profile page of the website by clicking the “Products” link. This brings them to a list of all the posts made by every school, organized by the major category that they are posted under. The head administrator simply has to click “authorize” for every post they feel is suitable for the wish list, and can also delete posts that are not appropriate. The same approval process is used for approving users on the website. The head admin can view all potential users of the site by clicking the “Vendors” link on the wish list profile page. They can click “authorize” on all users they feel comfortable with giving accounts to the website.

3.2.9 - User Manual

To ensure functionality of the online community, the team created a user manual for both the head administrator as well as each school administrator. The user manual for the head administrator outlines all the website and wish list management options they can use. The user manual for the school administrators can be found in **Appendix D**, and brings the principal step by step through their account to show them how they can create posts, manage posts, and view users who wish to fulfill items on their wish list.

3.3 – Testing the Design

Once the system was created, initial testing of the design began. Initial testing was done by the IQP team with help from Worcester Public School's IT director, Bob Walton. This testing is important to ensure that all features of the system are in working order when early modifications are being made. This testing will be validating the HTML code written for the system to find any flaws in the design.

3.3.1 – Initial Testing

Initial testing was extremely important in testing the usability of the system. Initial testing is essential in obtaining feedback on the design in a controlled environment. This involved selection of a small group of school administrators from different Worcester public schools. It was important for the testing to be in a controlled environment to ensure that identified flaws are valid issues and not specific to any single user.

The initial testing allowed for evaluations of individual tasks performed on the website. Open-ended questions were asked to gain feedback and opinions on the functionality and usability of the system. They were also asked whether or not they could envision themselves using this system for the purpose of posting wish list items. The aim of asking the open-ended questions of the testers is to elicit information that was not brought to light by the initial testing. Feedback on the design will be essential in making the database more user-friendly.

3.3.2 – Deployment and Major Testing

Major testing of the system to identify bugs and potential security threats was done once the system has been deployed. The community was hosted on the WPS server to monitor computer usage and limit security threats. The IT department of the WPS system must be able to obtain usage information such as number of users, amount of activity (posts and replies), and login tracking of members. After this testing phase, the database was ready for launch on the Internet for use by school administrators selected in every school, who may then begin posting wish list items. Marketing of the website to nearby Universities, businesses, and community groups will be essential to gain participation for the fulfillment of wish list items.

4.0 – Results

4.1 – Logging In

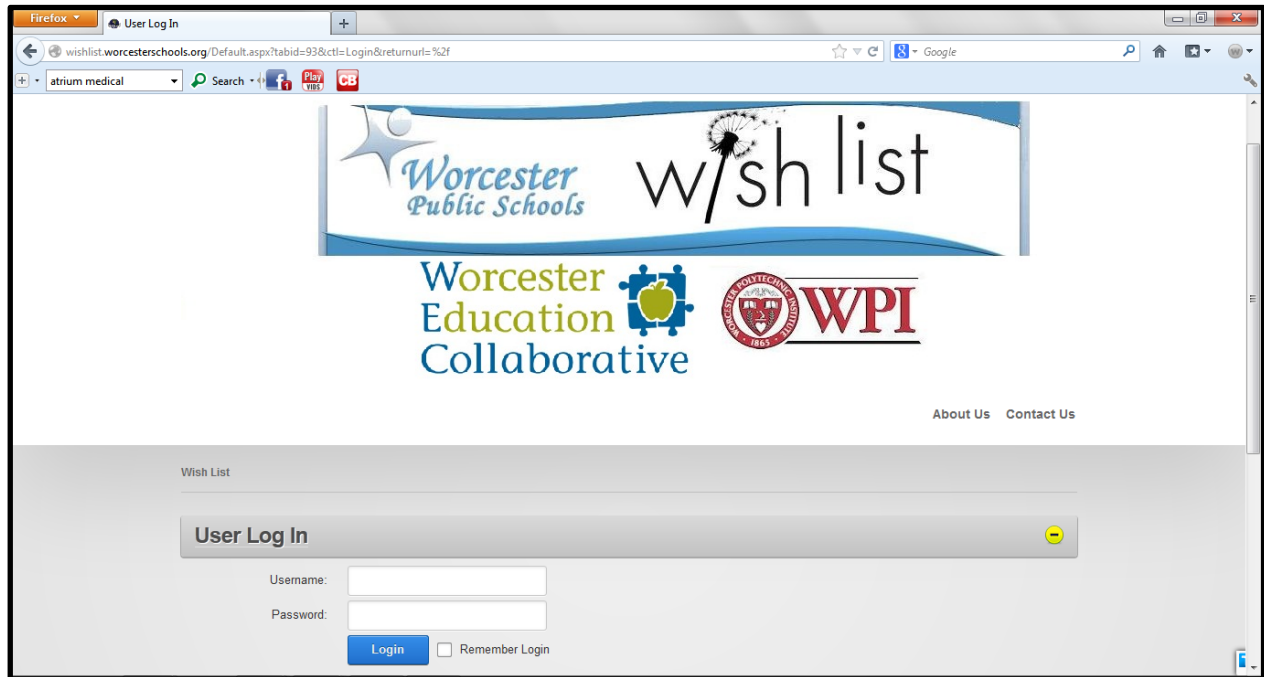


Figure 4.1 – Login Portal

Users directed to the website will first be prompted with a login. The team created a login portal on the home page to manage and restrict the users of the website. This login portal is used for school administrators and potential donors to sign into their accounts on the site. Currently the website's settings only allow users with a username and password to access the site. This provides safety and security for the wish list, and allows the WPS to keep track of every user on the site.

4.2 – User Profile & Member Directory

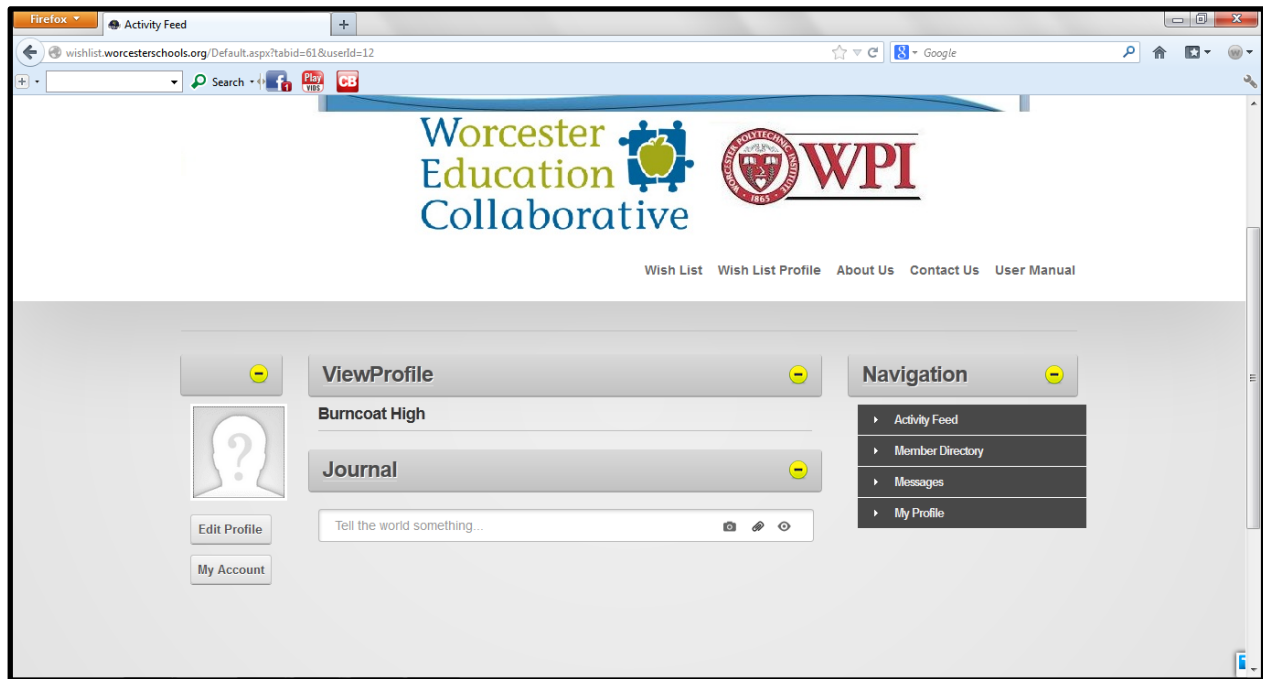


Figure 4.2 – User Profile

All administrators on the site have access to a user profile, as shown in **Figure 4.2** above. The user profile allows school administrators to update the information they want displayed to other schools. This page also allows the user to access their account information, where they can change their account email address and password. The user profile also incorporates a journal, where schools can post items that will only be viewed on their profile page.

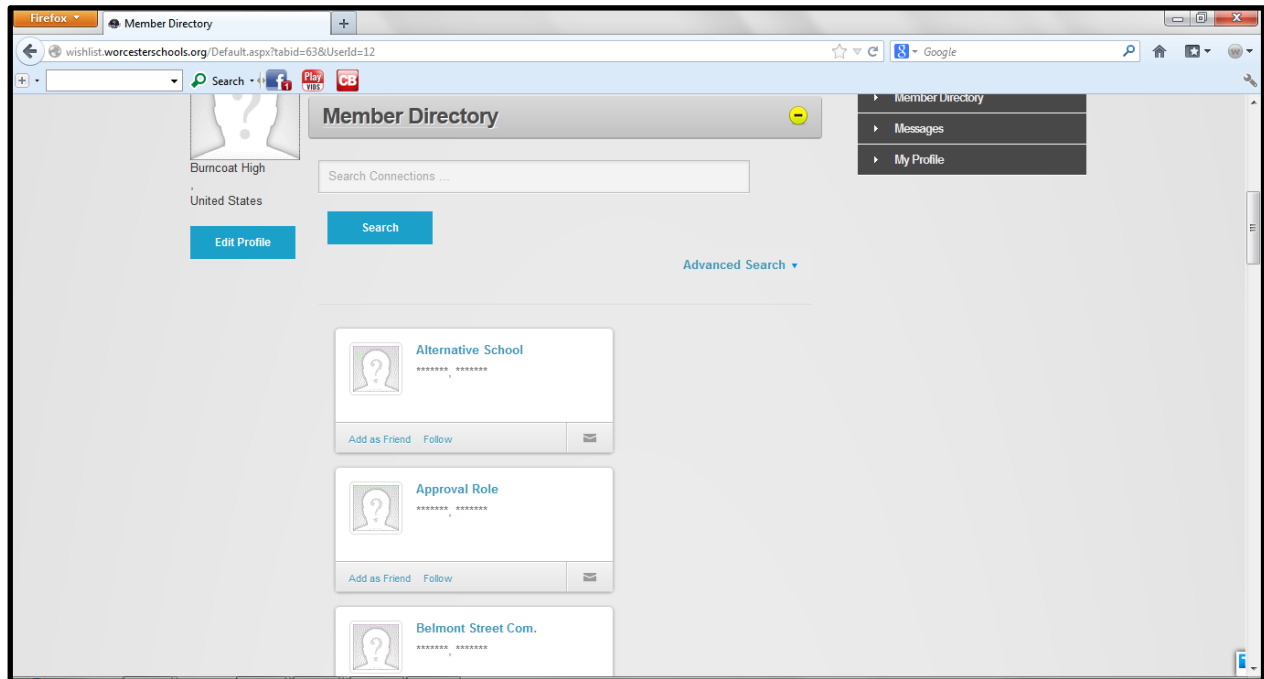


Figure 4.3 – Member Directory

The user profile page also contains a member directory, in which all administrators can use to communicate amongst each other. The member directory can be viewed in **Figure 4.3**.

4.3 – Wish List Profile Directory

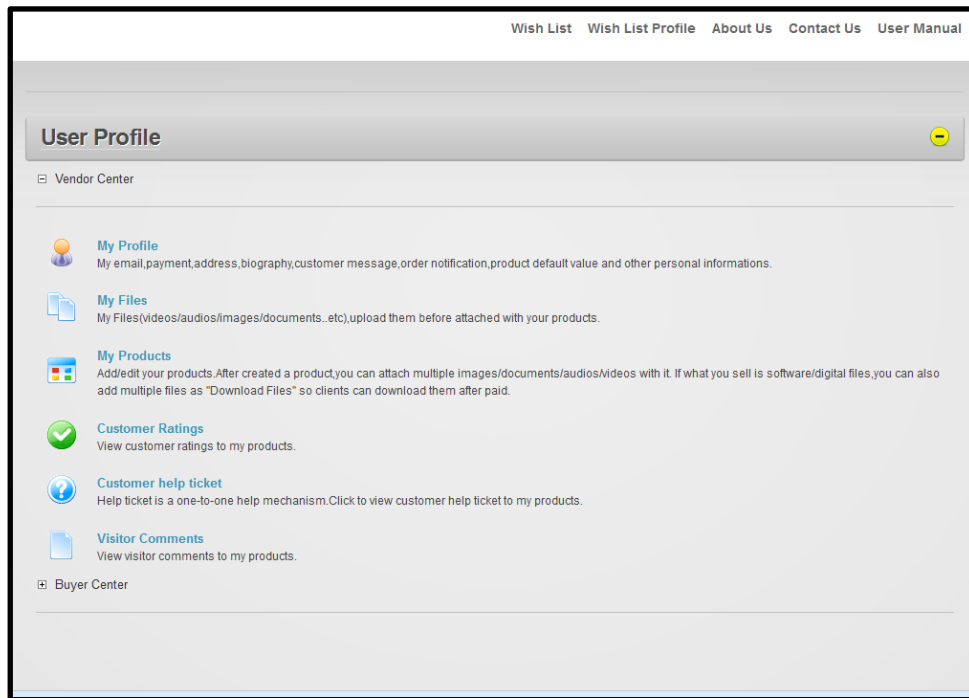


Figure 4.4 – Wish List Profile

After logging in for the first time, school administrators will have access to their wish list profile directory as displayed in the **Figure 4.4**. This directory gives the principal the ability to manage their wish list items and customize their user profile.

4.4 – Managing Products

Wish List Wish List Profile About Us Contact Us User Manual

My Products

Your products quota:[Unlimited], Used 3 Select Department: School Safety [Add Product](#) [Delete Selected](#) [Return my account](#)

Category: <None Specified> Status: All Page: 20 Name:

	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	AED needed in nurses office	0	-1	2/19/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Toggle Active"/> <input type="button" value="Delete"/>	<input type="button" value="Related"/>
<input type="checkbox"/>	Help with bringing in internet safety programs	2	-1	2/19/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Toggle Active"/> <input type="button" value="Delete"/>	<input type="button" value="Related"/>

Sum:2 Size:20 Page:1 of 1

Legend
 = Edit this item = Copy as new product = Toggle Active = Delete this item
 = Edit options, each option has its own settings(price/weightV, etc)

Figure 4.5 – Managing Products Page

From the “My Products” page of the directory, shown in **Figure 4.5**, the user can add wish list items to the department of the wish list of fit. From this page, the administrators have the capability to delete, modify, and deactivate their wish list items.

4.5 – Managing Comments

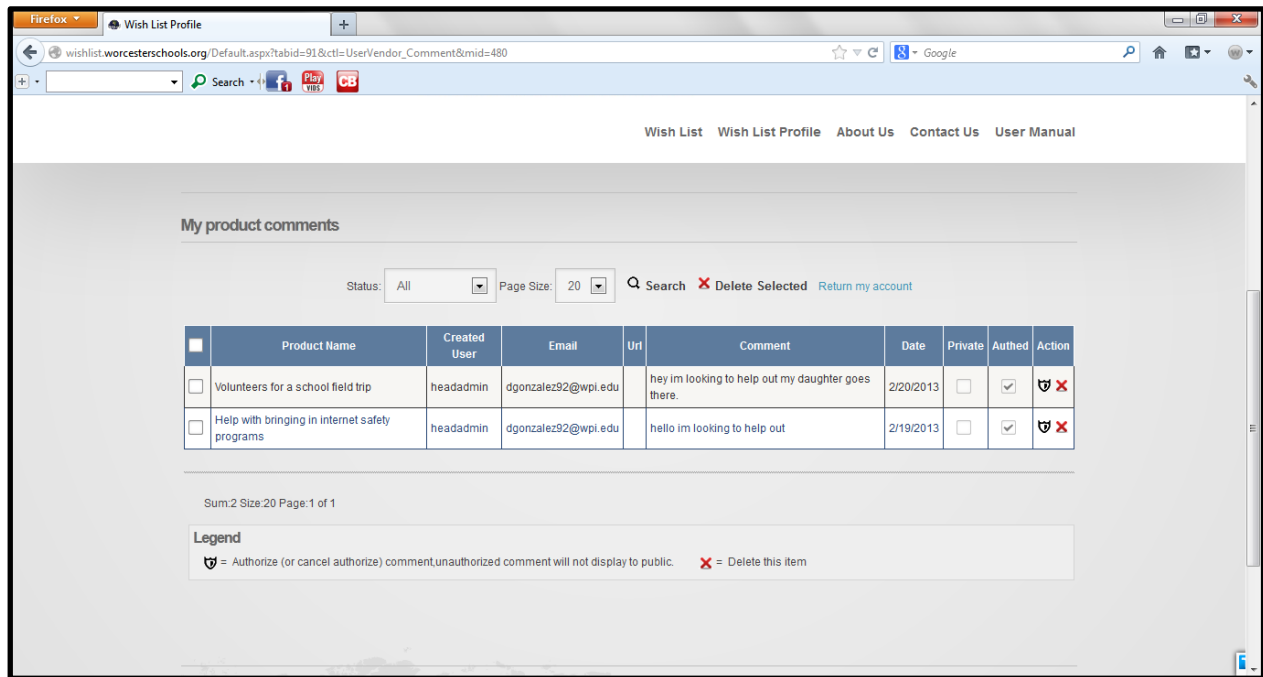


Figure 4.6 – Managing Comments Page

The directory also includes a “Visitor’s Comments” page, which shows the principal people who have commented on a post with regard to fulfilling a wish list item. This page can be seen in the figure **Figure 4.6**.

4.6 – SuperUser Content Manager

Product Manager

Delete Selected Change selected products as: Authorized Go [Return my account](#)

Department: Technology Vendor: <None Specified> Category: <None Specified>

Status: All Page Size: 20 Product Name: Search

<input type="checkbox"/>	Vendor	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	South High	Need more technology	3	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	McGrath	Technology update	0	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	May Street	Funding for advanced technology	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Gates Lane	Expansion of Technology	0	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Flagg Street	Funding for computer supplies	4	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Elm Park Com.	Improving technology	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Belmont Street Com.	We need additional computers	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	John	Funding for iPads for our intermediate students	3	-1	2/12/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Dominic	Computer Chair	4	-1	2/12/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		

Figure 4.7 – Content Manager Page

As mentioned earlier, all posts made by school administrators must be approved by the Worcester Public Schools. To solve this issue, the team created an approval account in which a WPS employee can approve posts that are worthy of the wish list. This approval process can be done from their own wish list profile under the data manager section of the page as displayed in **Figure 4.7**. This head administrator also has the authority to deem a post unfit for the wish list.

4.7 – Classifieds Home

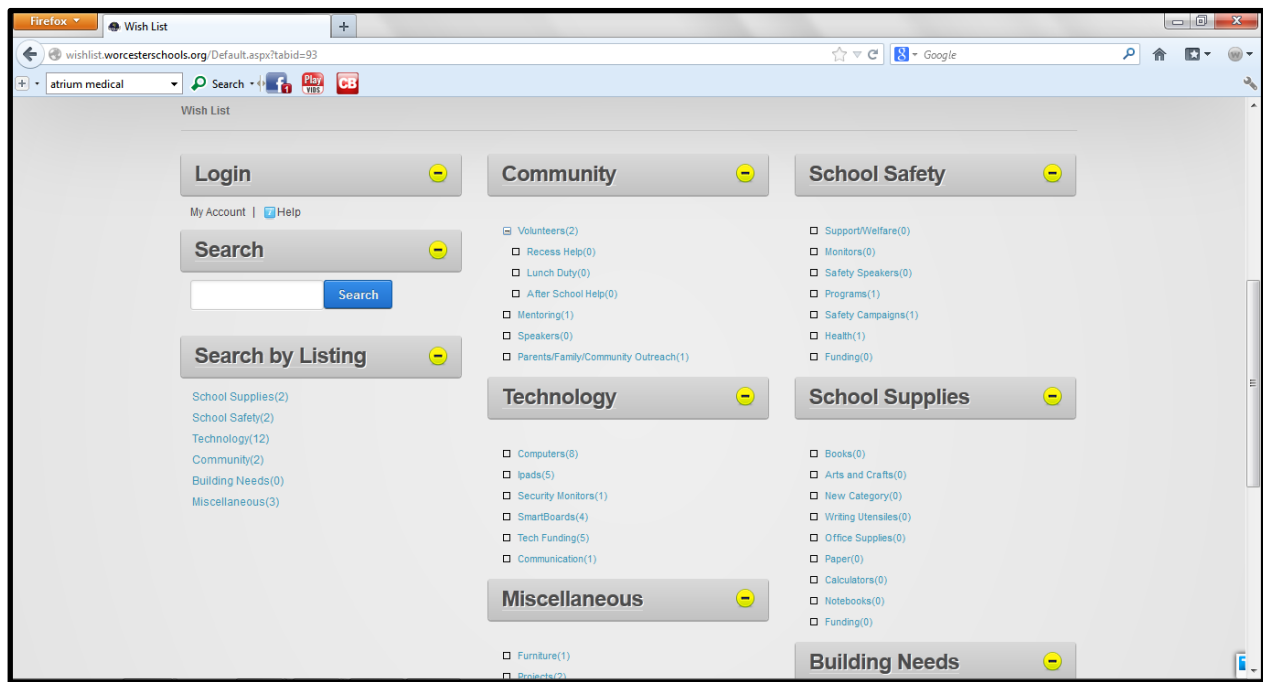


Figure 4.8 – Classifieds Home

The classifieds home page, shown in **Figure 4.8** is meant to resemble the craigslist organizational styles. The page contains all of the departments in which principals can post their needs under. Departments are used to organize wish list items into larger categories, so that a potential donor can easily find a wish list item they can fulfill. The classifieds is very similar to the Craigslist style, with the wish list broken down into major categories. The major categories are then further sub-divided depending upon the type of item.

4.8 – Department Pages

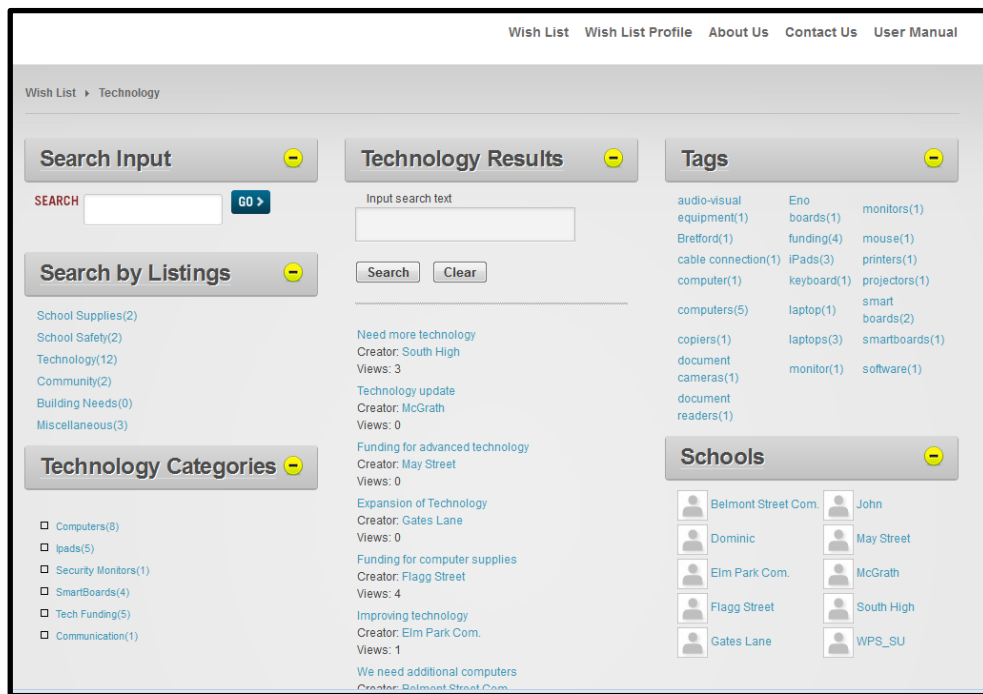


Figure 4.9 – Department Page

When a donor clicks on a department it will bring them to a page that contains all the posts in that category. This page can be found in **Figure 4.9**. Within each department other filtration options are available. Surrounding the list are links that allow the donor to search the department list, search by category, search by tag, and search by school.

4.9 – Product Detail Page

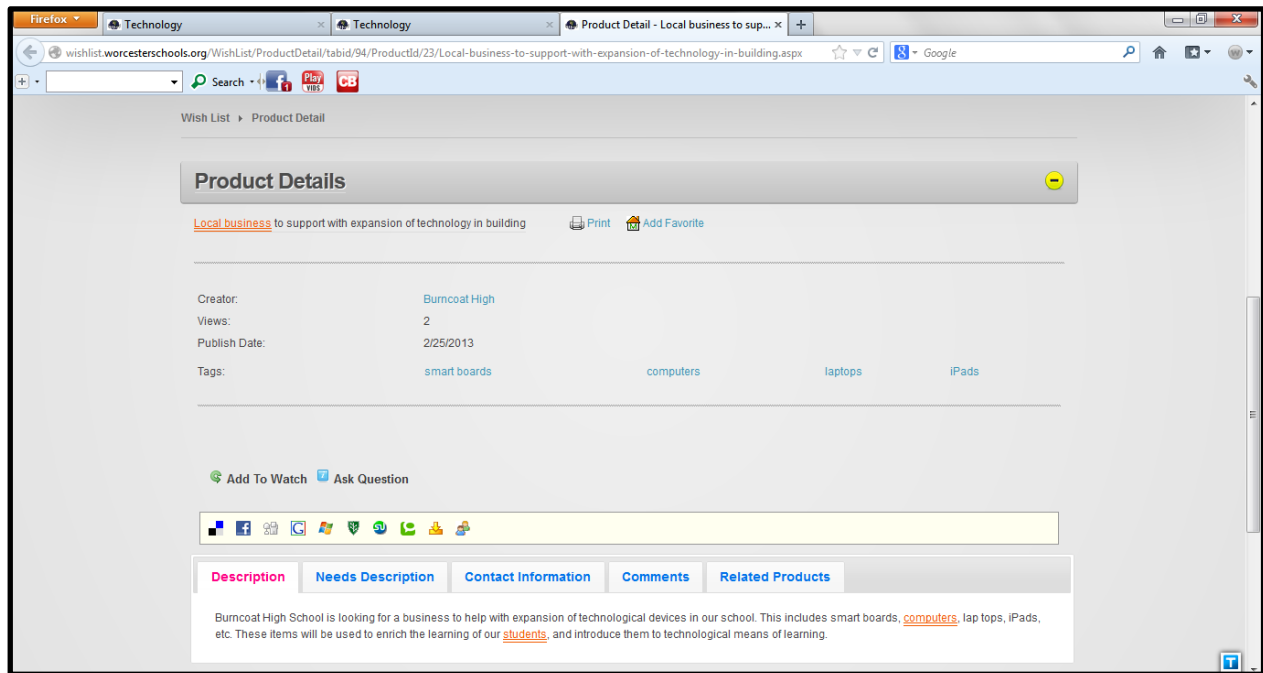


Figure 4.10 – Individual Post

When a user wishes to fulfill a school's need, they can click on a post to direct them to its detail page, which can be seen in **Figure 4.10**. This page allows users to leave a comment or locate the contact information for the school they wish to help.

4.10 – Social Media & Support

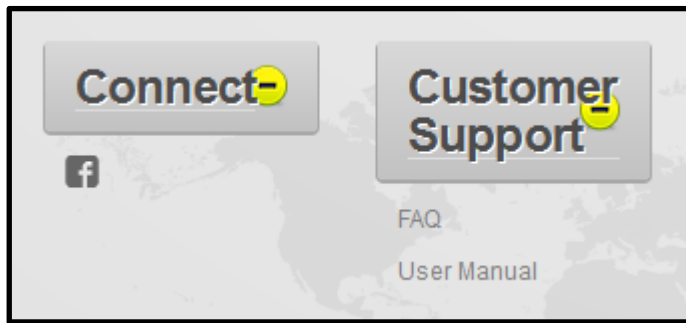


Figure 4.11 – Social Media & Support

The site also includes a social media and support link as seen in **Figure 4.11**. This incorporates a link to the Wish List Community Facebook page. The support section gives principals a link to a user manual and frequently asked questions.

4.11 – User Manual

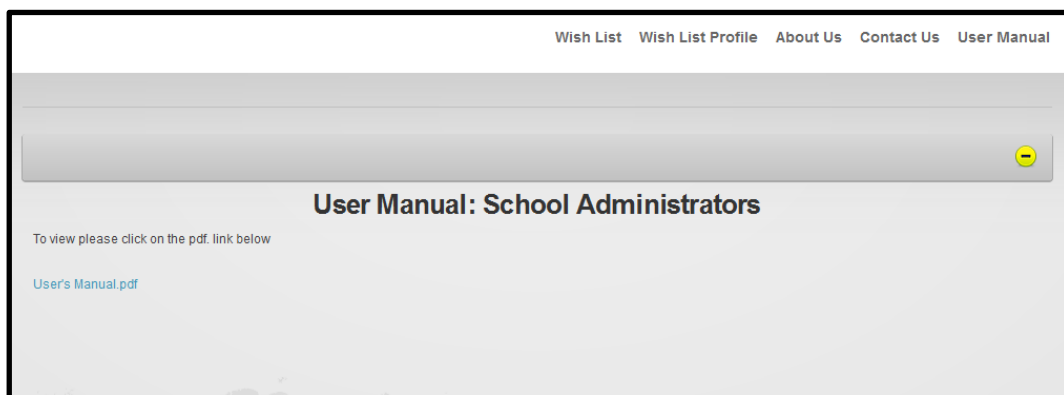


Figure 4.12 – User Manual Page

The detailed user manual for the head administrator can be found in Appendix D.

The detailed user manual for school administrators can be found in Appendix E.

5.0 – Recommendations

Feedback is essential in gathering users' impressions and to gauge the website's ease of use, navigation, the overall look of the site, and whether or not it will accomplish what it was designed for. Based on the results, the team decided the website did not currently need to be altered in any way. A user manual was then produced so that if any issues arise after the WPI Team's involvement has ended, the administrators can refer to it for troubleshooting or other issues.

5.1 – Promotional Strategy

One of the biggest challenges when creating an online wish list for the WPS is gaining participation of the community members of Worcester. In order for the wish list to be successful, the key players in the community need to have knowledge of it. Key players include businesses, Universities, and charitable organizations within the Worcester community. These donors play an essential role in the fulfilling of wish list items for every public school. The team alongside the WEC and WPS administration has developed a promotional strategy to drive traffic to the website.

5.1.1 – Publicity

Publicity plays a key role in spreading the word of the wish list. One advertisement technique the team will use to promote the wish list is *The Worcester Telegram & Gazette*. David Perda of the WPS works closely with a member of their staff and can obtain a front-page story of the creation of the wish list community. This would inform interested members of the community about the website and show local businesses, universities, and organizations the credibility of the site. This will be important in bringing traffic to the wish list from smaller members and organizations in the community.



Figure 5.1 – Facebook Wish List Community

Another form of promotion the group decided to use is social media. Social media is currently one of the leading forms of communication and advertisement. A Facebook page titled “Worcester Wish List Community” has been created to help fulfill wish list items. This page would be used mainly to attract participation from parents of the community. These posts

could be used to obtain immediate help at a school when needed. This will be of particular use when looking for immediate help at a local school.

5.1.2 – Community Outreach

Gaining community outreach through email and meetings is another essential technique to gain traffic on the wish list. Currently, the WEC holds quarterly round table meetings in which major players in the community talk about community involvement in Worcester education. The team will be presenting the wish list at their next meeting on March 14, 2013. This will introduce the wish list to these members. The attendees of this meeting will then be able to pass along the wish list to other members of the community they work closely with.

Community outreach can also be obtained through contacting the sponsors of the WEC. These sponsors include many of the major players mentioned earlier. Many of the WEC's sponsors are already heavily involved in the WPS system; however, the website will give these sponsors a dynamic list that they can check regularly. All of the promotional techniques mentioned above will provide the wish list with the initial traffic that it needs and will promote the growth of the site as time moves forward.

5.2 – Measuring Success of Online Communities

The most common metrics of measuring success in an online community are member contribution and quality of relationships among members. There is a direct relationship between the number of contributions and the quality of the online community: if there is a high degree of participation then the community can be considered to be succeeding [Preece, 2001].

Other metrics that can be used to measure success include usability and sociability. Sociability measures include number of participants, number of messages per unit of time, member's satisfaction, reciprocity, and trustworthiness. Usability measures include number of errors when using the interface, user productivity, and user satisfaction [Preece, 2001]. These metrics can be measured both quantitatively and qualitatively depending on which metric is being analyzed to determine successfulness.

5.2.1 – Obtaining Participation

A very important part of creating a successful online community is obtaining participation. This can be done in many ways to ensure the growth of the community. It is easier to attract members if the community clearly shows the identity of its operators or is affiliated with a reputable organization [Andrews, 2002]. In this case, the WPS should have confidence in the WEC and trust that this online community is going to meet their needs. Another way to obtain participation is the use of offline meetings or events. The community can be brought up in meetings or other WPS events to encourage participation of all schools in the district. As the community grows, gaining participation from outside the WPS system will be

essential. One way outside participation can be obtained is the implementation of reward systems. If it is seen that a particular school, business, or individual excels, rewards can be given [Andrews, 2002]. All the qualities of online communities are going to be considered for the system used for the WPS “wish list” items. It will be important to incorporate these aspects to ensure a successful online community can be maintained.

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<http://wecollaborative.org/about-us/mission/>

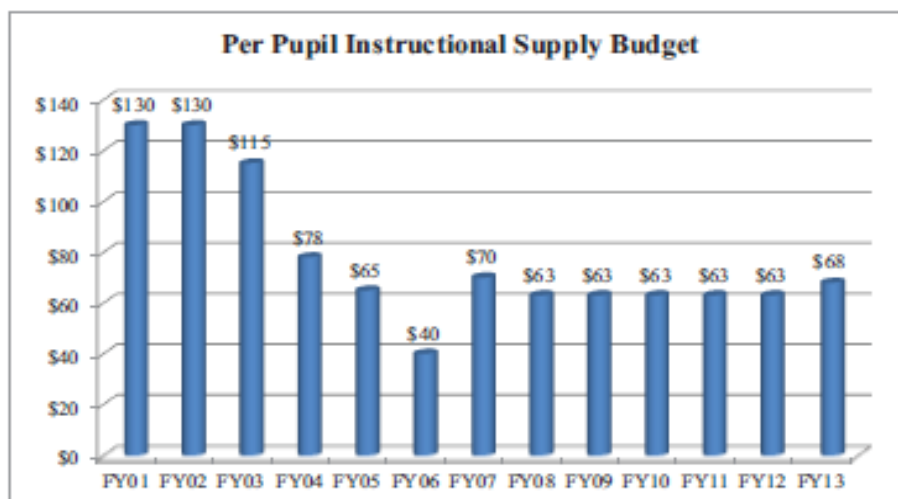
Appendix A – Instructional Supply Budget

Instructional Supplies & Materials

FY12 Adopted	FY13 Budget	\$ Change	% Change
\$2,569,810	\$2,666,747	\$96,937	3.7%

This account provides for the instructional materials and school improvement needs of the district and individual schools. The FY13 budget provides \$68 per pupil for instructional supplies and materials, an increase of \$5 per pupil of \$63 per pupil from the approved FY12 budget. Schools use these funds to implement their School Accountability Plan. These funds are used for the acquisition of high school library collections, and periodicals; textbooks and other non-consumable instructional materials; consumable teaching supplies such as paper and workbooks. Fees for materials and conferences, presenters, and workshops to enhance staff instructional effectiveness are also acquired from the school improvement allocation. Funding for enrichment activities approved at the discretion of the principal in conjunction with the School Council (field trips and in-service programs) are also provided for in this account.

The following chart illustrates the amount (excluding non-recurring funds) that has been allocated per pupil since FY01:



Appendix B – Accountability Plan



Burncoat Middle School

135 Burncoat Street
Worcester, MA 01606
(508) 799-3390

Principal: Lisa Houlihan

Quick Facts

Quadrant	Burncoat
Grades	7-8
Year Built	1952
Square Footage	147,296
Enrollment	570
Graduation Rates	N/A
Student Attendance	95.5%

Instructional Focus

All BMS students will be able to identify the basic facts and main ideas in text and use them as the basis for interpretation. Students will also be able to write with a clear focus, coherent organization and sufficient detail.

Student Demographics

Low Income	73.5%
Special Education	25.1%
English Language Learners	22.5%
African American	15.4%
Asian	4.6%
Hispanic	40.4%
Native American	0.4%
White	37.5%
Multi-Race, Non-Hispanic	1.8%

School Accountability Plan

- 100% of our students will show improvement in ELA and Math as demonstrated by the administration of the MCAS. No less than 15% of students will show growth to the next performance level in ELA and no less than 30% of students will show growth to the next performance level in Math. The remaining will show growth within their performance level. Our goal is to have no less than 70% at Proficient or above in ELA and no less than 50% at Proficient or above or safe harbor in Math in 2012.
- 100% of students have the opportunity to participate in PBIS as evidenced by the number of students who receive rewards. As the year goes on, the number of students participating will improve by 10% for each reward.
- 100% of our parents will be notified of events in order to increase the amount of parental opportunities that parents can participate.
- 100% of school stakeholders-parents, faculty, community and students will know and understand the instructional focus, best practices and our plan to achieve the WPS goals as outlined in the WPS Compact.

MCAS Testing

% of Proficient or Above	
■ All Grades - Reading	61.0%
■ All Grades - Math	38.0%
Student Growth Percentile	
■ Mathematics	41.0%
■ ELA	41.0%

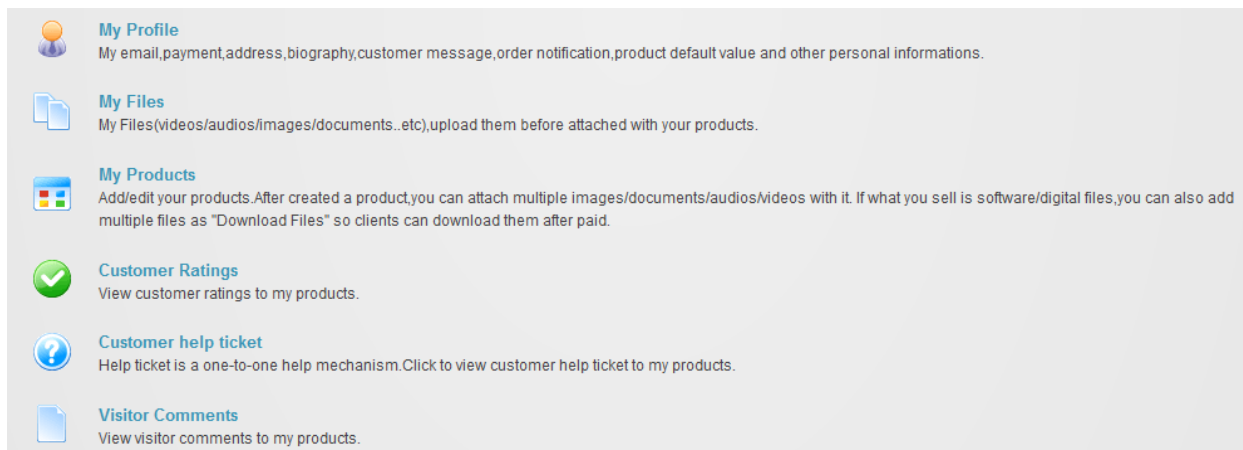
Appendix C - User Manual: School Administrators

I. Logging In:

- Login in using the login portal at the top right hand of the home page and enter your username and password. This will bring you to your user profile page. On this page you can update information about your school by clicking “edit profile”

II. Posting Wish List Items:



- To post a wish list item first click the button “Wish List Profile” on the navigation bar located at the top of the page. This will bring you to the administrative area of the wish list which can be seen below.


















- On this page you will see two drop downs: “Vendor Center” and “Buyer Center”, click the drop down for “Vendor Center.”
- Click on the “My Products” link.

- To add a wish list item, select a department from the drop down, in which the product can be organized into (ie. Computers would go in the “Technology” department). Then click the button “Add Product” as seen below.

My Products


Your products quota:[Unlimited], Used 2 Select Department: Student Achievement  Add Product  Delete Selected [Return my account](#)

Category: <None Specified> Status: All Page: 20 Name:  Search


<input type="checkbox"/>	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	pencils	22	-1	2/4/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100	  	   
<input type="checkbox"/>	math tutors	8	-1	2/4/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100	  	   

- Fill out the information for the item you need by first simply writing in the wish list item in the “Name” bar as seen below.

Basic Categories Tags Summary Description Needs Description Contact Information

Name 

- Then, click the “Categories” button to choose categories for the wish list item. You need to choose *at least* one category. Multiple categories can be chosen.
- To add tags to the wish list item, click the “Tags” button to classify the wish list item more specifically.
- You may also add a project description if need be.
- Finally, click on “Contact Information” to provide information for potential donors to contact you about fulfilling wish list items.
- To submit the item, click “Update” at the bottom of the page.
- Your post will then be sent for approval by the head administrator.

 Update  Cancel

III. Managing Wish List Items:

- Once you have successfully added an item, you will be redirected to your products page as seen below. The page is where your wish list items can be managed.

My Products

Update Successfully.

Your products quota:[Unlimited], Used 2 Select Department: Technology Add Product Delete Selected [Return my account](#)

Category: <None Specified> Status: All Page: 20 Name: Search

	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	Funding for iPads for our intermediate students	0	-1	2/12/2013	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		

- To edit the post click the edit = Edit this item button
- To delete a post click the delete = Delete this item button
- To activate/deactivate a post click the toggle active = Toggle Active button
- To copy a post click the copy as new product = Copy as new product button

IV. Fulfilled Wish List Items:

- When a wish list item is fulfilled, a prospective donor can message you about your item or contact you through your provided contact information on the “Product Detail” page.
- To view messages on your wish list items go back to your original wish list profile by click “Wish List Profile” (as seen in section I of the manual) in the navigation bar at the top of the page.
- Then, click on the “Visitors Comments” link to bring you to all comments on your wish list items.

My product comments									
Status: All Page Size: 20 Search Delete Selected Return my account									
	Product Name	Created User	Email	Url	Comment	Date	Private	Authed	Action
<input type="checkbox"/>	Local business to support with expansion of technology in building	Walter White	dgonzalez92@wpi.edu		hello Tyler my name is walter white and i work for raytheon and have some supplies for you. Contact me back with more details.	2/6/2013	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Local business to support with expansion of technology in building	Walter White	dgonzalez92@wpi.edu		hello Tyler my name is walter white and i work for raytheon and have some supplies for you. Contact me back with more details.	2/6/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

- You can delete these comments as they are fulfilled by clicking the delete button.

2013

User Manual: Super-user Site Admin

Wishlist.worcesterschools.org




Appendix D – SuperUser Manual

I. Creating a New User

- Click on Admin at the top of the screen
- Click on User Accounts
- Scroll towards the bottom of the page and select Add New User
- Fill in everything that has a red star (First and Last name is optional)
- At the bottom left hand corner, select Add New User
- This new user will now appear in the User Accounts list.
- This new user is set up as a School Admin

Changing a User Role

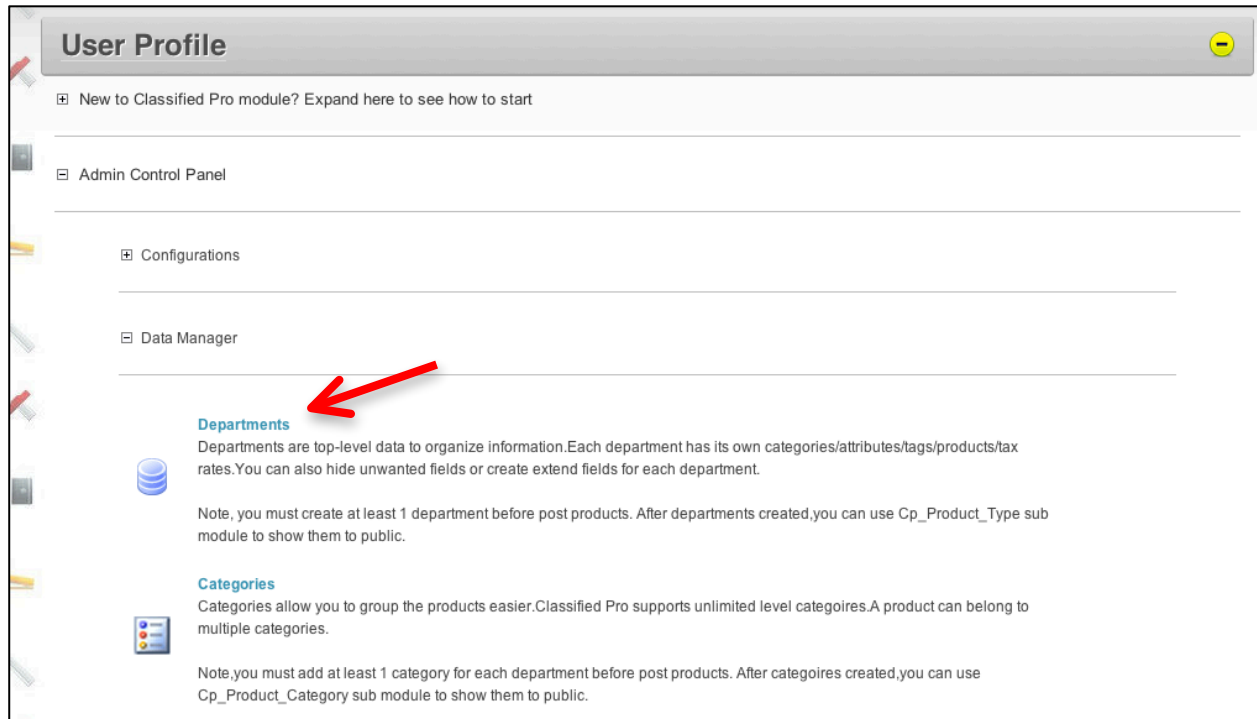
- a. Click on Admin at the top of the screen
- b. Click on User Accounts
- c. Click on the  symbol
- d. Select a Security Role from the drop down menu
- e. Set an Effective Date as to when the user account will gain the the role
- f. Set an Expiry Date as to when the user account will lose this role (only set if the role set is only temporary)
- g. Click Add Role to User
- h. The User will now have new set of permissions.

Deleting a User

- i. Click on Admin at the top of the screen
 - j. Click on User Accounts
 - k. Click on the trash can to the left of the username and click yes to confirm.
- To permanently delete user, click in the same spot the trash can was and click yes to permanently remove user.

II. Creating a Major Category (Department)

- Click Wish List Profile just below the main banner
- Open up the Admin Control Panel tab
- Open up the Data Manager tab
- Click on Departments



- Click on Add Departments
- Fill in the name of the category here

Department Name i

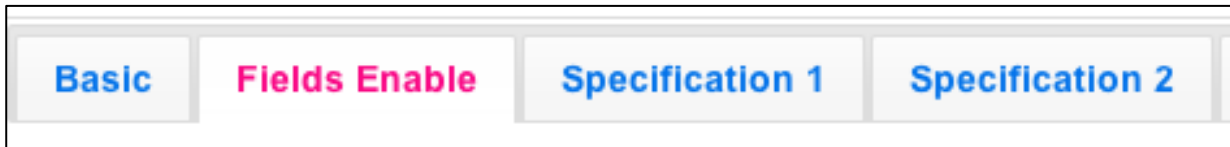
- Make sure the box underneath the name of the category reads

File Location:

File Name:

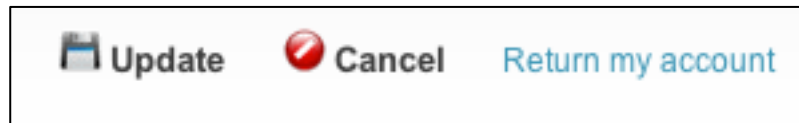
- Make sure Sellable, Enable Tax, Integrate with Good Maps, and Allow recursive charge are all unchecked.
- Make sure Charge Percent should say 0.00
- Required Address should be checked off

- Click on Fields Enable



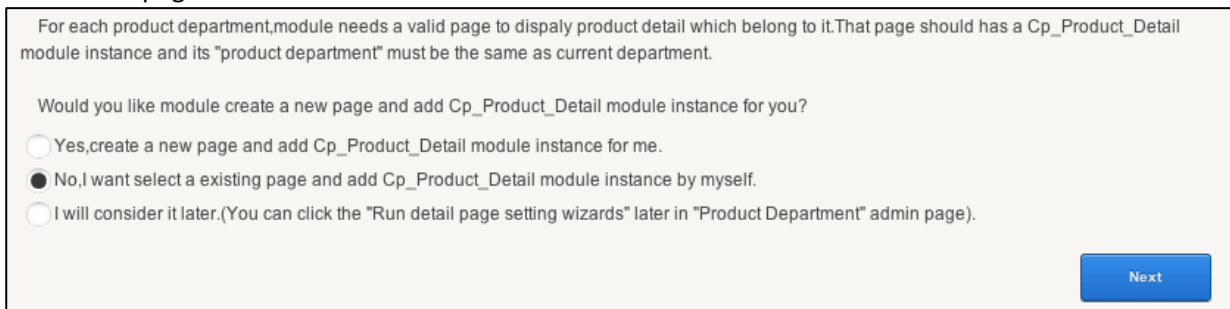
A screenshot of a configuration window with four tabs: 'Basic', 'Fields Enable' (highlighted in pink), 'Specification 1', and 'Specification 2'.

- Make sure only Enable "Summary" Field, Enable "Link Url" Field, Enable "Description" Field and Enable "Stock Quantity" Fields all have checks next to them
- Click Update



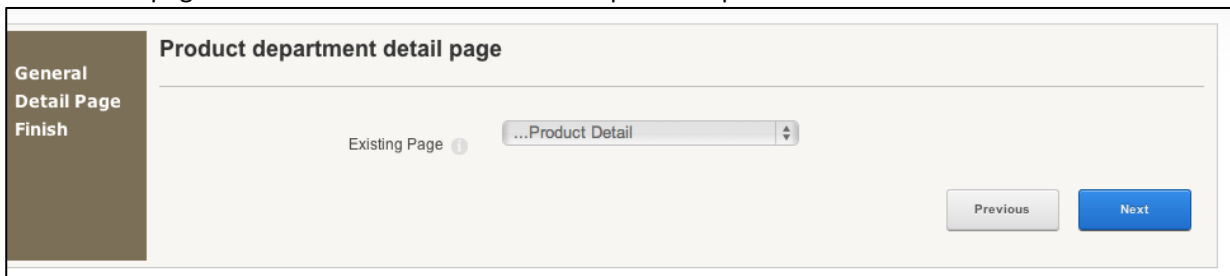
A screenshot of a button bar containing three elements: a blue 'Update' button with a document icon, a red 'Cancel' button with a stop icon, and a blue 'Return my account' link.

- At the next page select:



A screenshot of a wizard step. The text reads: "For each product department,module needs a valid page to dispaly product detail which belong to it.That page should has a Cp_Product_Detail module instance and its "product department" must be the same as current department." Below this, it asks: "Would you like module create a new page and add Cp_Product_Detail module instance for you?" with three radio button options: "Yes,create a new page and add Cp_Product_Detail module instance for me.", "No,I want select a existing page and add Cp_Product_Detail module instance by myself." (which is selected), and "I will consider it later.(You can click the "Run detail page setting wizards" later in "Product Department" admin page)." A blue "Next" button is at the bottom right.

- On the next page select **Product Detail** from th drop down options.

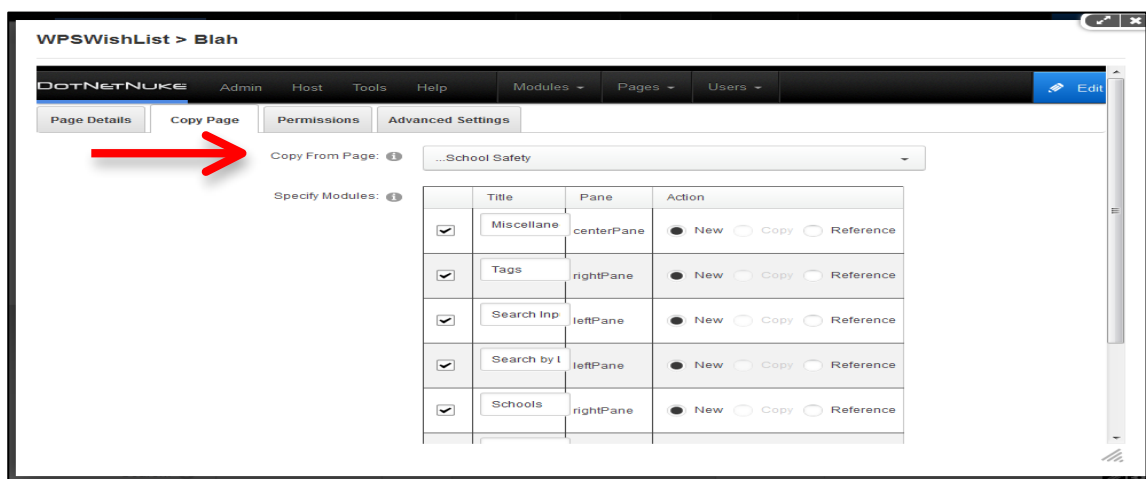


A screenshot of the "Product department detail page" configuration screen. On the left is a sidebar with "General", "Detail Page", and "Finish" (highlighted). The main area has the title "Product department detail page" and a section "Existing Page" with a dropdown menu showing "...Product Detail". At the bottom right are "Previous" and "Next" buttons.

- On the next page click finish
- You have now created a new category. The next process to finish making the new category function is to create a page to host the category.

III. Adding a New Page for Department

- Under the “Pages” tab on the DotNetNuke editing tab click on “copy page”. (This is done so you can keep all the containers needed for a Department page without having to add them individually)
- Under the **Copy From Page** field select one of the major departments that already exist. It does not matter which one as long as it is one of the major categories(departments) since they all share the same page settings and containers.
*Note: Do not select the “Wishlist” tab here since that will copy the home page.



- While on this same pop up menu - Select the first tab “Page Details” and add the page title which in this case would be the department name (Major Category) you wish to add. Do this for **Page Name** and **Page Title**.
- Next we must select where to insert this page since it is a child page under Wishlist you will do as follows.
- Scroll down to where you see **Parent Page** and select “Wishlist”. Then select where you wish to place this new page you are creating. In this example the new page will be placed after “Building Needs”.

Parent Page ⓘ Wish List

Insert Page: ⓘ ☐ Before ☒ After ☐ Add to End

Building Needs

Include In Menu? ⓘ ☒

Add Page Cancel

- Select **Include In Menu?** so that the page will display as a drop down when the mouse hovers over the “Wish List” page tab.
- Finally before adding the page you must select the appearance of the module which will fall under the advanced Setting.

Page Details Copy Page Permissions Advanced Settings

- In the Page Skin field select Host **Gravity-3-Col-Social** and for Page Container, select Host **DarkNightMobile - ToggledContentContainer**

Page Skin ⓘ Host: Gravity - 3-Col-Social

Page Container ⓘ Host: DarkNightMobile - ToggledContentContainer

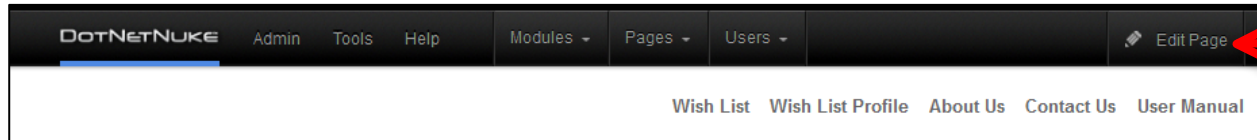
- Now you have finished creating the page for this new Major Category. Click on **Add Page**.

Add Page Cancel

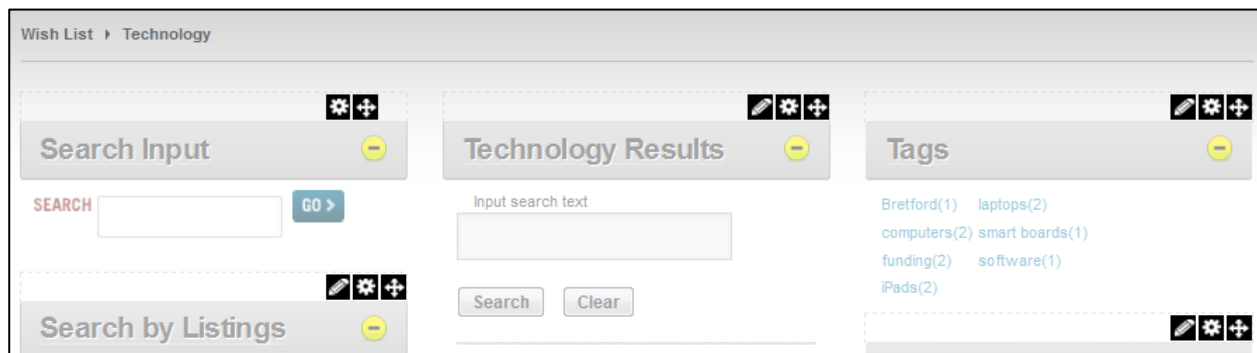
Linking Modules on a New Page

Once a new page had been created for a department it is important to link the modules on the page will be a copy of another's, to that specific department you have just created.

- First click on “Edit Page” on the control bar, then ‘edit this page’



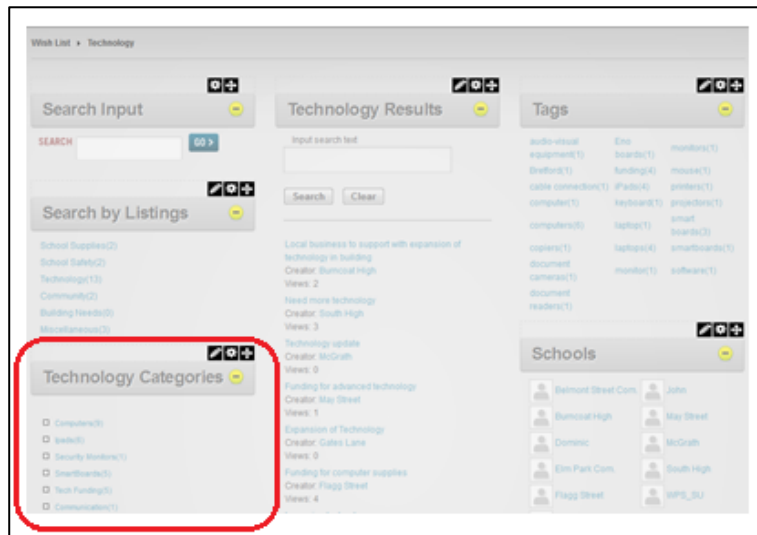
- You will notice the editing boxes to the top right of the modules of the page



- Click on the pencil marking editing icon and you will be navigated to that modules editing features the gear symbol will bring you to that container's settings where the title of that container can be edited.

Left Module

On the left hand side you will only need link the categories module by clicking on the pencil to link that module to the correct Department.



- Link the module to the Department and use the setting as shown below

A screenshot of the 'WPSWishList > Technology > Product category list settings' dialog box. The 'General Settings' section is expanded. It includes a 'Product Department' dropdown set to 'Technology'. Below it is a blue informational box. The 'Template' dropdown is set to 'default/CategoryList_Standard'. Another blue informational box is below it. The 'Cp_Product_List module page' section has a dropdown set to '...Technology'. The 'Link Target' dropdown is set to 'Self Window'. The 'Display Style' dropdown is set to 'Tree'. The 'Show product counts' checkbox is checked. The 'Display Rss' checkbox is unchecked. At the bottom, there are 'Update' and 'Cancel' buttons.

- Update the page

Center Module

- The center module will bring you to what is called a Product List Settings

WPSWishList > Technology > Product List Settings

General

Product Department *i* Technology

All sub modules on Classified Pro package are template based, you can customize your desired display effect by create different templates. See "Classified Pro user guide.pdf" for more detail.

Template *i* default/ProductList_Standard

Select which page to display product detail, that page should have a Cp_Product_Detail module instance on it. If you don't specify it, module will use the default detail page for selected department (which specified in "Cp_Admin-Data Manager - Departments") to display.

Cp_Product_Detail module page *i* ...Product Detail

List Style *i* List

Select whether to response url parameter like ProductSearchTerm/ProductCategoryId/ProductTagId/ProductUserId/ProductDate. For example, if this option is checked and user pass a "ProductSearchTerm" like http://DnnModule.com /tabid/23/default.aspx?ProductSearchTerm=dnn. Then module will display product list which name contains "dnn".

Accept search parm *i* ☒

User Id Mapping *i*

Featured products only *i* ☐

- In the "Product Department" field you chose the respective department (major category) to which you want the link to.
- Under the Product_Detail module page" field select the Product Detail page. **Note: This product detail page is done for all product lists within each department.**
- Select **list** under List Style
- Accept Search Parm

Under the Paging drop down copy as shown

Paging

Paging <i>i</i>	<input checked="" type="checkbox"/>
Rows per page <i>i</i>	10
Columns Per Row <i>i</i>	1
Paging navigate span <i>i</i>	5
Show page info <i>i</i>	<input checked="" type="checkbox"/>

Under the Display Content drop down copy as shown below then update the page

Display Content

Choose fields which will display in product list below.

Show Search ⓘ	<input checked="" type="checkbox"/>
Show Name ⓘ	<input checked="" type="checkbox"/>
Show Creator ⓘ	<input checked="" type="checkbox"/>
Show Summary ⓘ	<input type="checkbox"/>
Summary Length ⓘ	<input type="text" value="0"/>
Show created date ⓘ	<input type="checkbox"/>
Show featured status ⓘ	<input type="checkbox"/>
Show Views ⓘ	<input checked="" type="checkbox"/>
Show Rating ⓘ	<input type="checkbox"/>
Rating Image ⓘ	default ▼

Right Side Tag Module

- In the “Product Department” field you chose the respective department (major category) to which you want the link to.
- Under the Product_Detail module page” field select the Product Detail page. Note: This product detail page is done for all product lists within each department.

Right Side Schools Module

- Select the department and Product List page which will both remain the same

WPSWishList > Technology > Product vendor list settings

Product Department ⓘ Technology ▼

All sub modules on Classified Pro package are template based you can customize your desired display effect by create different templates. See "Classified Pro user guide.pdf" for more detail.

Template ⓘ default/Author_Standard ▼

Select when click a item, which page will display related products. That page should have a Cp_Product_List module instance on it. If you don't specify module will use the default list page for selected department (which specified in "Cp_Admin-Data Manager - Departments") to display

Cp_Product_List module page ⓘ ...Technology ▼

Link Target ⓘ Self Window ▼

Item per row ⓘ 1

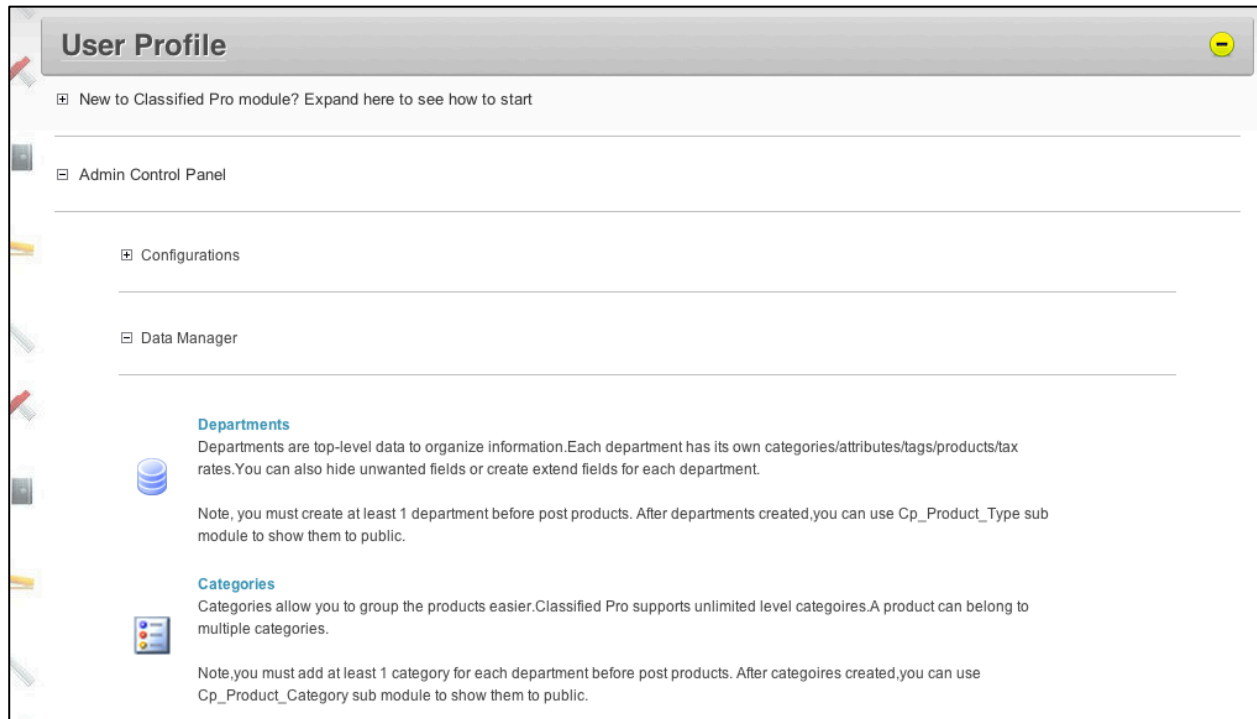
Display Avatar ⓘ ☒

Display Res ⓘ ☐

- Select Self Window as the link target
- And Display Avatar if you which it to show the schools profile picture.
- Click Update

IV. How to create a sub-category.

- Click Wish List Profile just below the main banner
- Open up the Admin Control Panel tab
- Open up the Data Manager tab
- Click on Categories



- Once in the Category Managery select a Category or Department from the drop down menu.
- Click on one of the sub-categories listed below the Catergory that was selected

Select Add Sibling

- Fill in the name for the new sub-category

Name ⓘ

New Category

Description ⓘ

Parent ⓘ

<Not Specified>

Image ⓘ

File Location:

Root

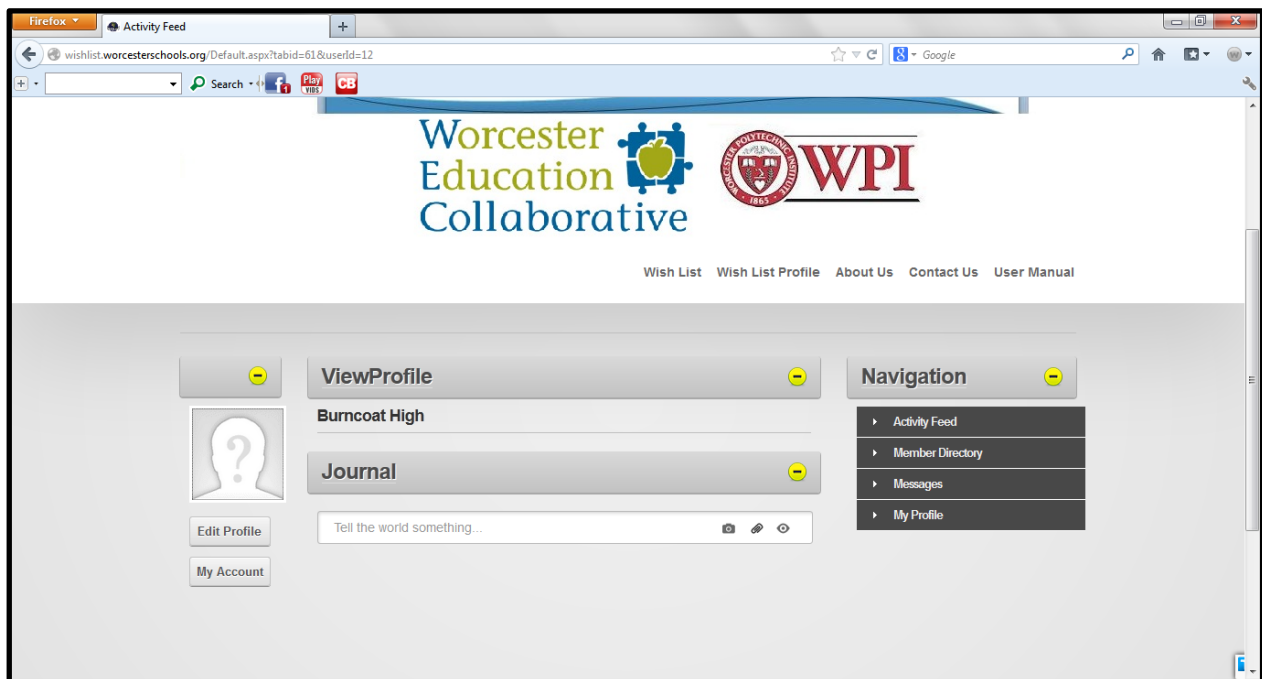
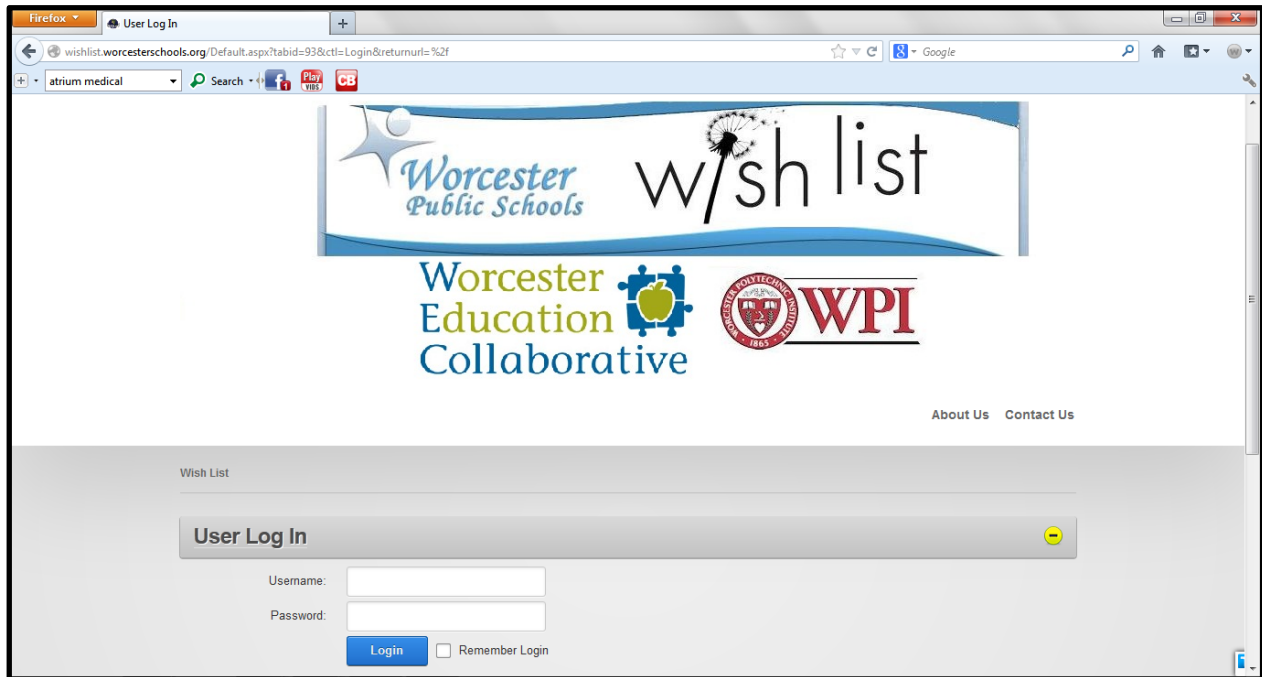
File Name:

<None Specified>

Upload New File

Click update towards the bottom of the page when done.

Appendix E – Results



Wish List
Wish List Profile
About Us
Contact Us
User Manual

User Profile

Vendor Center

My Profile
My email,payment,address,biography,customer message,order notification,product default value and other personal informations.

My Files
My Files(videos/audios/images/documents...etc),upload them before attached with your products.

My Products
Add/edit your products.After created a product,you can attach multiple images/documents/audios/videos with it. If what you sell is software/digital files,you can also add multiple files as "Download Files" so clients can download them after paid.

Customer Ratings
View customer ratings to my products.

Customer help ticket
Help ticket is a one-to-one help mechanism.Click to view customer help ticket to my products.

Visitor Comments
View visitor comments to my products.

Buyer Center

Wish List
Wish List Profile
About Us
Contact Us
User Manual

My Products

Your products quota:[Unlimited], Used 3
Select Department:
School Safety
Add Product
Delete Selected
Return my account

Category:
<None Specified>
Status:
All
Page:
20
Name:
Search

	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	AED needed in nurses office	0	-1	2/19/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Help with bringing in internet safety programs	2	-1	2/19/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		

Sum:2 Size:20 Page:1 of 1

Legend
 = Edit this item
 = Copy as new product
 = Toggle Active
 = Delete this item
 = Edit options,each option has its own settings(price/weight/..etc)

Product Manager

[Return my account](#)

Department:
 Vendor:
 Category:

Status:
 Page Size:
 Product Name:

<input type="checkbox"/>	Vendor	Name	Views	Stock	Created	Authed	Active	Featured	Expired	Index	Action	Related
<input type="checkbox"/>	South High	Need more technology	3	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	McGrath	Technology update	0	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	May Street	Funding for advanced technology	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Gates Lane	Expansion of Technology	0	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Flagg Street	Funding for computer supplies	4	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Elm Park Com.	Improving technology	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Belmont Street Com.	We need additional computers	1	-1	2/20/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	John	Funding for iPads for our intermediate students	3	-1	2/12/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		
<input type="checkbox"/>	Dominic	Computer Chair	4	-1	2/12/2013	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100		

Wish List

My Account | [Help](#)

School Supplies(2)
 School Safety(2)
 Technology(12)
 Community(2)
 Building Needs(0)
 Miscellaneous(3)

☐ Volunteers(2)
☐ Recess Help(0)
☐ Lunch Duty(0)
☐ After School Help(0)
☐ Mentoring(1)
☐ Speakers(0)
☐ Parents/Family/Community Outreach(1)

☐ Computers(8)
☐ Ipads(5)
☐ Security Monitors(1)
☐ SmartBoards(4)
☐ Tech Funding(5)
☐ Communication(1)

☐ Furniture(1)
☐ Projects(2)

☐ Support/Welfare(0)
☐ Monitors(0)
☐ Safety Speakers(0)
☐ Programs(1)
☐ Safety Campaigns(1)
☐ Health(1)
☐ Funding(0)

☐ Books(0)
☐ Arts and Crafts(0)
☐ New Category(0)
☐ Writing Utensiles(0)
☐ Office Supplies(0)
☐ Paper(0)
☐ Calculators(0)
☐ Notebooks(0)
☐ Funding(0)

